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American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

Monthly Statistical Report

Prepared by the Statistics Department **Vol. 10, No. 10**

NOVEMBER 19, 1986 **OCTOBER 1986**

ESTIMATED U. S. PETROLEUM BALANCE

SUMMARY

After three months of 4 percent average growth, total deliveries' rate of increase for October dropped to 2.0 percent due to greater-than-expected slackening in the rise of residual fuel oil deliveries and a decline for "other oils". Underlying growth, however, is likely still in the range of 3.5 to 4 percent. Gasoline and kerosine each continued to grow at a strong pace, while distillate deliveries rose only slightly.

Crude oil production continued to decline, with estimated production in the lower 48 reaching levels not regularly experienced since the 1950s. Though petroleum imports were still more than a million B/D above last October's levels, they slipped by about 850 thousand B/D from September's recent-year record as OPEC production cutbacks worked their way through the transportation system. Refinery utilization was up nearly 4 percentage points from last October, though with distillate stocks some 28 million barrels higher than a year ago, distillate production did not match last year's surge in output. Above-seasonal inventory building of prior months slackened in October, the roughly 9 million barrel increase in total stocks being about average for that month. Last October, stocks had declined contraseasonally.

PRODUCTS SUPPLIED[1/]

Gasoline

ANOTHER STRONG INCREASE. October gasoline deliveries continued the strong growth of recent months, rising nearly 4 percent (265 thousand B/D). Though roughly a percentage point lower than September's estimated increase (which may have overstated consumption gains), the increase was as large as for the summer driving season, tending to confirm that increased driving due to lower prices is continuing.

However, the picture is not entirely clear. With fuel efficiency of the fleet continuing to improve, increases in miles driven should be greater than increases in gasoline demand. Yet vehicle travel data show rises of only about 4 percent in recent months, implying gasoline demand growth of perhaps 2 percent.

Retail prices declined 2 to 3 cents per gallon in October, somewhat more than typical for that month, and were roughly 30 percent below last October's levels. Lower oil prices have also reduced the costs of petroleum-derived octane sources, of added importance as government-mandated phaseout of lead continues, to the detriment of ethanol blends. Performance of gasohol sales has varied greatly this year among regions, depending on differences in state tax exemptions and subsidies, public acceptance, and other factors. Overall, however, sales which had risen by a third nationally in 1985 to close to half a million B/D have tapered off this year. According to Federal Highway Administration data, 13 states accounting for about a third of 1985 gasohol sales experienced a nearly 7 percent decline for July.

Distillates

UP ONLY SLIGHTLY DESPITE COLDER WEATHER. Despite weather colder than last year, distillate deliveries rose only 0.3 percent (10 thousand B/D). For the nation, October weather averaged about normal but was about 9 percent colder than for last year's warmer-than-average October. This, particularly with weather nearly 15 percent colder than last year in the Northeast, helped to add an estimated 60 thousand B/D to distillate use compared with last October. Increased use of on-highway diesel also likely added 40 to 50 thousand B/D to distillate demand, while other sectors as a group changed little. Though these factors pushed consumption higher, a move to fill nonprimary inventories last October and below-average interest in purchases for inventory this year masked most of the increase.

Even with colder-than-normal weather in major heating-oil-consuming regions, retail prices generally weakened in a month when prices have usually risen seasonally.

Residual Fuel Oil

GROWTH RATE SLIPS. The rate of increase in residual fuel oil deliveries has been slackening over the past several months; though for October this product still achieved a 13.7 percent, 143 thousand B/D increase, this was less than might be expected for a product whose third quarter rise had averaged over 30 percent. As in prior months, most of the activity was in the electric utility sector, a segment whose market share reached more than half of residual fuel oil deliveries during the summer. Seasonal declines in electricity demand from the summer peak have likely had a more-than-proportional impact on incremental fuels such as residual fuel oil, reducing purchase increases averaging nearly 350 thousand B/D during the summer to a probable 200-250 thousand B/D last month. With little change in either industrial or bunkering use, October's increase in residual fuel oil deliveries appears to be roughly 50-100 thousand B/D below what would be expected based on market segment data.

Kerosine Jet Fuel

RAPID RISE CONTINUES. Second only to residual fuel oil as one of the fastest-growing major fuels this year, kerosine jet fuel deliveries rose 13.5 percent (141 thousand B/D) for October. Over the longer term, rapid growth in air traffic has caused kerosine jet fuel deliveries for the first ten months of the year to jump 37 percent since 1982, far above the 7 to 8 percent increases for gasoline and distillate over the same period and the 21 percent decline for residual fuel oil. Most of the growth is due to increased passenger traffic—both miles flown and revenue passenger miles have risen about 40 percent in four years, twice the rate of growth in cargo traffic.

Other Oils

WEAK IN OCTOBER. Deliveries of other oils declined 4.3 percent (180 thousand B/D), continuing the weak performance of the past several months. Year-to-date, the decline has amounted to 1.3 percent. This year's 7 percent decline for the first eight months for natural gas liquids and liquefied refinery gases, which account for about 40 percent of "other oils", contrasts with results for last year. According to the recently-released *Sales of Natural Gas Liquids and Liquefied Refinery Gases,* sponsored in part by API, sales of these products rose 1 percent in 1985. Chemical uses, which account for a third of sales, rose more than 8 percent, while gasoline blending use (a sector not included in deliveries of "other oils" in order to avoid double counting with gasoline deliveries) increased 1.6 percent, in line with the growth in gasoline deliveries. Residential, commercial, and farm use, primarily propane, rose, while industrial and other uses fell.

(In millions of B/D)	OCTOBER ESTIMATES			YEAR-TO-DATE ESTIMATES		
	1986	1985	% Change	1986	1985	% Change
—Total domestic products supplied	16.3	15.9	2.0	16.1	15.7	2.5
—Motor gasoline supplied	7.2	6.9	3.8	7.0	6.8	2.8
—Distillate fuel oil supplied	2.9	2.9	0.3	2.9	2.8	0.8
—Residual fuel oil supplied	1.2	1.0	13.7	1.4	1.2	18.3

SUPPLY[1/]

Because of a 1,035 thousand B/D rise in petroleum supplies from outside the U.S., total supply increased 912 thousand B/D for October despite a 123 thousand B/D decline in domestic supply.

Production

LOWER 48 DROPS TO LEVEL OF 1950s. Estimated crude oil production in the lower 48 sank to about 6.7 million B/D in October, a level not regularly experienced since the 1950s. Total U.S. production fell 333 thousand B/D or 3.7 percent year-to-year, the over-400 thousand B/D drop for the lower 48 only partially offset by a roughly 70 thousand B/D increase in Alaska. The Alaskan increase follows September's 90 thousand B/D decline due to temporary pipeline difficulties in that month.

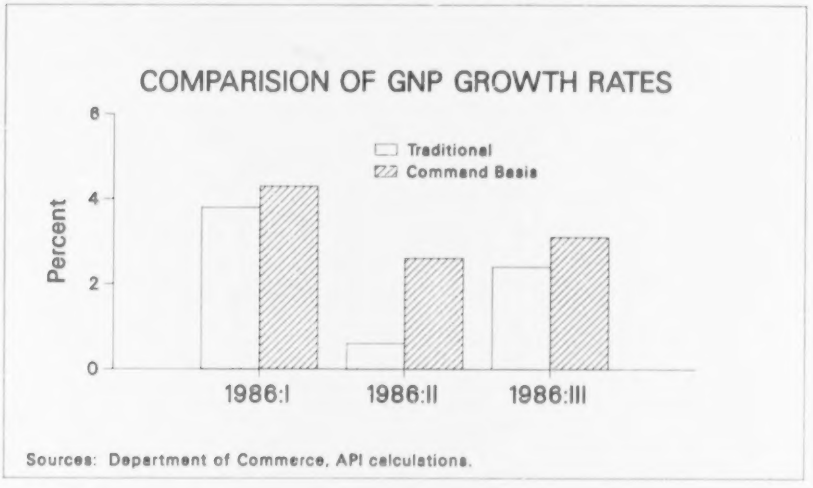
This year's lower oil prices have resulted in sharply reduced drilling of new wells, cutbacks in well servicing and maintenance, deferral or cancellation of many enhanced recovery projects, and a higher rate of shut-ins and reduced economic life for marginal wells. As a result of rig activity down by 50 to 60 percent year-to-year in recent months, well servicing activity down by over 40 percent, and exploration and production spending down by at least 40 to 50 percent, production outside Alaska has been declining at an average rate of about half a million B/D per year.

Imports

DOWN FROM SEPTEMBER, UP FROM LAST YEAR. Total imports were still over a million B/D higher than last October, despite a drop of about 850 thousand B/D from September, as the effects of OPEC's September production cutback reached U.S. ports. Though shifts in inventory accumulation and drawdowns this year and last have distorted imports comparisons at times, October's increase is not out of line with what is needed to meet rising demand and to compensate for declining domestic production.

Still-growing residual fuel oil demand helped to increase imports of that product by 85 thousand B/D. Year-to-date, residual fuel oil has been the main contributor to the 112 thousand B/D increase in product imports.

The treatment of petroleum imports in measuring economic growth (see the July *Monthly Statistical Report*) has had a significant effect on the apparent variability of real GNP growth this year. According to the traditional GNP measure, the economy's growth rate dropped from 3.8 percent in the first quarter (annual rate from prior quarter) to 0.6 percent in the second, then rose to 2.4 percent (preliminary) in the third. When measured, instead, in terms of the economy's command over goods and services (which, other things equal, increases when import prices fall), swings in growth rates for 1986 are less dramatic. According to one method of calculation (which applies the gross domestic purchases deflator to "net exports"), the respective growth rates on a "command" basis were 4.3, 2.6, and 3.1 percent, respectively. As can be observed, the largest divergence between the two measures of growth occurred in the second quarter, when import prices were changing most rapidly because of falling oil prices. (The data used here do not incorporate the third quarter GNP revision due for release today.)



Sources: Department of Commerce, API calculations.

Refinery Operations

UTILIZATION RISES BUT DISTILLATE OUTPUT FALLS. Refinery utilization as a percent of operable capacity continued in the low 80s in October, up by almost 4 points from last October. Though gasoline production rose nearly 6 percent year-to-year, distillate declined about 4 percent. This divergence reflects in part stronger demand growth for gasoline than for distillate, currently-ample distillate supplies, and the fact that last October's distillate production had surged to the highest October level in six years.

Inventories

STOCK-BUILDING MODERATES. The greater-than-seasonal inventory building that has been typical since late spring slowed in October. From the end of April through September, primary inventories had increased 136 million barrels, about 100 million barrels above the typical pattern of recent years, as buyers took advantage of this year's lower prices and easy availability of crude. Imports' decline from September's recent-year high helped to reduce October's build to a near-average 9 million barrels. Crude oil stocks rose 12 million barrels, while product stocks declined slightly. Though distillate stocks rose only marginally during October, a month when they have typically risen 6 to 9 million barrels in anticipation of the coming heating season, end-of-month stocks were still nearly 28 million barrels above last October's level.

SUPPLY[1/]

(In millions of B/D)	OCTOBER ESTIMATES			YEAR-TO-DATE ESTIMATES		
	1986	1985	% Change	1986	1985	% Change
—Total supply	17.3	16.4	5.6	17.1	16.1	6.6
—Crude production[2/]	8.6	9.0	(3.7)	8.8	9.0	(1.8)
—Crude oil imports[3/]	4.3	3.2	33.0	4.0	2.9	36.6
—Product imports	1.9	1.9	(1.4)	1.9	1.8	6.2

1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 508 million barrels as of October 31, 1986).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	OCTOBER			YEAR-TO-DATE		
	1986[1]	1985[2]	% Change	1986[3R]	1985[2]	% Change
Products Supplied:						
Total motor gasoline	7,162	6,897	3.8	7,032	6,841	2.8
Finished leaded motor gasoline*	2,195	2,412	(9.0)	2,222	2,458	(9.6)
Finished unleaded motor gasoline*	4,967	4,485	10.7	4,810	4,383	9.7
Naphtha-jet	189	217	(12.9)	208	216	(3.7)
Kerosine-jet	1,182	1,041	13.5	1,092	984	11.0
Distillate fuel oil	2,911	2,901	0.3	2,865	2,841	0.8
Residual fuel oil	1,185	1,042	13.7	1,378	1,165	18.3
All other oils[4]	3,964	4,144	(4.3)	3,807	3,857	(1.3)
Reclassified[5]	- 324	- 298	8.7	- 328	- 245	33.9
Total domestic products supplied	16,269	15,944	2.0	16,054	15,659	2.5
Exports	752	690	9.0	747	741	0.8
Total products supplied	17,021	16,634	2.3	16,801	16,400	2.4
Supply:						
Domestic production:						
Crude oil[6]	8,637	8,970	(3.7)	8,808	8,972	(1.8)
Natural gas liquids	1,525	1,610	(5.3)	1,589	1,597	(0.5)
Other supply[7]	1,005	710	41.5	792	745	6.3
Total domestic supply	11,167	11,290	(1.1)	11,189	11,314	(1.1)
Imports:						
Crude oil, total	4,280[10/]	3,218[10/]	33.0	4,019[10/]	2,943[10/]	36.6
Canadian	538	480	12.1	541	463	16.8
Other	3,742	2,738	36.7	3,478	2,480	40.2
Products, total	1,856	1,883	(1.4)	1,926	1,814	6.2
Residual fuel oil	626	541	15.7	634	481	31.8
Other	1,230	1,342	(8.3)	1,292	1,333	(3.1)
Total imports	6,136	5,101	20.3	5,945	4,757	25.0
Total supply	17,303	16,391	5.6	17,134	16,071	6.6
Stock change, all oils	+ 282	- 243	XXXX	+ 333	- 329	XXXX
Refinery Operations						
Input to crude oil distillation units	12,871	12,363	4.1	12,811	12,060	6.2
Operable capacity	15,594	15,733	(0.9)	15,511	15,664	(1.0)
Refinery utilization (%)[8]	82.5%	78.6%	5.0	82.6%	77.0%	7.3
Crude oil runs	12,722	12,209	4.2	12,703	11,904	6.7

Stocks (millions bbls.)	1986		1985[2]	% Change from ...	
	Oct. 31[9]	Sep. 30[9]	Oct. 31	Previous Month	Year Ago
Crude oil [10/]	347.0	335.2r/	313.7	3.5	10.6
Unfinished oils	103.7	97.8	107.2	6.0	(3.3)
Total motor gasoline**	221.2	230.2r/	213.9	(3.9)	3.4
Finished leaded motor gasoline*	63.2	68.9	71.5	(8.3)	(11.6)
Finished unleaded motor gasoline*	121.1	122.7r/	108.6	(1.3)	11.5
Naphtha-jet	6.9	6.2	6.7	11.3	3.0
Kerosine-jet	43.1	43.2r/	35.6	(0.2)	21.1
Distillate fuel oil	151.2	150.0	123.4	0.8	22.5
Residual fuel oil	47.8	43.6	50.4	9.6	(5.2)
All other oils	205.8	211.7r/	154.8	(2.8)	32.9
Total all oils	1,126.7	1,117.9r/	1,005.7	0.8	12.0

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-August, U.S. Department of Energy, September-October, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes unaccounted-for crude oil, refinery input of other hydrocarbons, and processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

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NOVEMBER 1986

ESTIMATED U.S. PETROLEUM BALANCE

SUMMARY

Cold weather and continued growth in gasoline and kerosine jet fuel deliveries helped to bring November's year-to-year increase for all products to over 1.1 million B/D or 7.3 percent. The unusually large increase--nearly twice the estimated underlying trend in consumption—is also at least partly due to below-trend deliveries last year. Residual fuel oil's rise of over 11 percent, though contributing to the overall increase as well, was smaller than prior months' increases, which had peaked during the summer months when seasonal electricity demand is typically high.

Unleaded's market share jumped to 72.6 percent in November, an increase of more than 6 points over last year. Regional introductions and market testing of mid-grade unleaded, spurred by lead phasedown requirements and logistical considerations, are pushing unleaded's share upward.

Domestic crude oil production continues to decline at an annual rate in excess of half a million barrels per day. For November, production in the lower 48 fell to less than 6.6 million B/D, a level not typical since the mid-1950s until this year. Even in Alaska, where production has held relatively steady, lower prices are altering production decisions.

Imports rose only about 300 thousand B/D year-to-year, but this is largely a reflection of stepped-up OPEC production and increased imports last fall—this November's imports were still nearly 6.4 million B/D and the highest for November since 1979. Refinery operations were up from last year; distillate production picked up after the cold snap mid-month, reaching the second-highest November level of the 1980's. Total stocks, which had been building more than seasonally earlier in the year, fell 8 million barrels in November in a month when they have historically averaged a roughly 10 million barrel increase. November's increased deliveries, combined with little incentive to add to inventories still 8 percent higher than a year ago, contributed to the drop. Despite cold weather, distillate stocks were drawn down by only 1 million barrels during the month, and at month-end were still more than 10 million barrels ahead of last November's.

PRODUCTS SUPPLIED[1/]

Motor Gasoline

UNLEADED'S SHARE JUMPS. The roughly 4 percent growth rate in gasoline deliveries apparent since early summer—double the rate of last year—slackened only slightly in November with a 3.4 percent, 233 thousand B/D rise. Retail prices that, after adjusting for inflation, are even lower than before the Arab oil embargo of 1973 continue to encourage increased driving; recent increases in miles travelled have been in the 4 to 4.5 percent range. The implied improvement in fuel efficiency is small—1 percent or less. However, recently-released data for 1985 show only a 1 percent increase over 1984, and it could well be that reduced interest in fuel efficiency, both in the use of existing vehicles and in new car purchase decisions, has cut this year's mileage improvement even further.

Unleaded's market share jumped over 6 percentage points year-to-year, to 72.6 percent, an indicator of an acceleration of the trend away from leaded gasoline. Market share increases earlier in the year had averaged 4.4 percentage points. Many companies have introduced mid-grade unleaded in selected markets, higher in octane than regular unleaded but similar to leaded regular in octane. Premium unleaded sales have also continued to expand, but mostly at the expense of unleaded regular. Draws on the government's lead bank by mid-year already amounting to nearly half of the credits accumulated as of the end of 1985, a mandated reduction in lead content to a minimal 0.1 gram/gallon after next year, leaded/unleaded storage segregation considerations, and a distribution and marketing system largely designed to handle only three grades, all are contributing to the rapid erosion of leaded regular's share.

Distillates

COLD WEATHER ADDS TO DEMAND. Distillate deliveries rose nearly 12 percent (323 thousand B/D), following a decline in September and minimal change in October. But, as in past months, deliveries apparently differ somewhat from indicated consumption. Nationally, November was about 10 percent colder than last year; as a result of changes from last year even greater than this on the East Coast and in the Midwest, weather is estimated to have increased distillate consumption by 200 thousand B/D compared with last November. Growth in trucking has been variable this year, but recent months show increases of 5 to 6 percent, and rail activity has also been experiencing gains of a few percent. Together these have added perhaps 60 thousand B/D to distillate consumption, with little net contribution from other sectors. Thus, indicated consumption gains explain about four fifths of November's deliveries increase.

With the ups and downs in distillate supplied of the past few months, a longer view gives a more accurate picture of distillate trends. When averaged over the past eleven months and adjusted for weather, distillate deliveries' growth rate has been between 1 and 2 percent, mostly due to increased transportation use.

Residual Fuel Oil

SLACKENING IN GROWTH CONTINUES. Though residual fuel oil deliveries were up over 11 percent (143 thousand B/D) in November, the increase represents a continued slackening in residual fuel oil's growth rate from increases which had gone as high as 43 percent during the summer. The primary source of this slippage has been the electric utility sector, where the seasonal decline in electricity demand during the fall has disproportionately cut back the use of incremental fuels such as residual fuel oil. By September, heavy fuel oil burned at utilities had declined by 30 percent from July's 835 thousand B/D while total generation declined only 15 percent. It is likely that utilities' year-to-year increase has fallen to roughly 150 thousand B/D in November--accounting for the entire increase in residual fuel oil deliveries.

Other residual fuel oil demand sectors remain nearly flat. Year to date, a 2 to 3 percent decline in bunkering use is estimated, with a similar-sized increase for industrial and other uses.

Kerosine Jet Fuel

USAGE MAY NOT MATCH 18 PERCENT DELIVERIES RISE. Kerosine jet fuel's 17.6 percent, 188 thousand B/D increase for November was even larger than the roughly 13 percent increases of the prior two months. Available seat miles, however, have been rising 9 to 10 percent recently. Even with load factors 2 to 3 percentage points higher than last year, it is unlikely that November's large deliveries increase is entirely the result of increased consumption, which was more likely in the 10 to 12 percent range. It is also unlikely that holiday travel, reportedly strong this year, pushed consumption up markedly for the month as a whole. In fact, though the Thanksgiving holiday is one of the heaviest travel periods of the year, air travel for the month as a whole is typically well below that of the mid-summer seasonal peak.

Other Oils

STRONG IN NOVEMBER. Contrasting with the weak performance for most of this year, deliveries of all other oils rose 5.6 percent (211 thousand B/D) in November; cold weather's impact on propane deliveries is at least partly responsible, with probable continued increases for heavier petroleum-based petrochemical feedstocks as well.

According to Department of Energy data, deliveries of total liquefied petroleum gases have fallen about 6 percent for the first nine months, with shifts to heavier petroleum-derived petrochemical feedstocks, encouraged by lower crude oil prices, a significant contributor. While oil prices this year have dropped to about half of last year's level, prices of natural gas and extracted ethane and propane have only declined about 30 percent. Despite the continued price disparity, there was some movement back towards lighter feedstocks during the third quarter. Even so, year-to-year growth of heavier feedstocks deliveries continued with a 10 percent increase for the third quarter while ethane and propane deliveries fell 8 and 13 percent, respectively.

Asphalt deliveries and refinery gas usage were both up about 5 percent for September year to date, while coke deliveries rose 3 percent. Failure of Congress to pass a highway bill before it recessed this year apparently has had little effect on asphalt demand as of yet, though project planning for 1987 is being affected.

(In millions of B/D)	NOVEMBER ESTIMATES			YEAR-TO-DATE ESTIMATES		
	1986	1985	% Change	1986	1985	% Change
—Total domestic products supplied	16.6	15.5	7.3	16.1	15.6	2.9
—Motor gasoline supplied	7.0	6.8	3.4	7.0	6.8	2.6
—Distillate fuel oil supplied	3.1	2.7	11.8	2.9	2.8	1.8
—Residual fuel oil supplied	1.4	1.3	11.1	1.4	1.2	17.3

SUPPLY[1/]

Total supply fell 249 thousand B/D in November, partly because of comparision with a month of increased imports a year ago. Domestic supply's 563 thousand B/D drop, more than enough to offset the 314 thousand B/D increase in imports, also contributed to the decline.

Production

LOWER 48 DOWN MORE THAN HALF MILLION B/D.

Crude oil production dropped about 440 thousand B/D year to year, a 74 thousand B/D increase in Alaska only partially offsetting a decline for the lower 48 of over half a million barrels per day.

So far this year, production has declined an average of about 50 thousand B/D per month. This rate of decline is equivalent to an annual drop in excess of half a million barrels per day, roughly in line with the rate implied in API's *Crude Oil Price Effects Survey* for the $15-per-barrel scenario. Conducted early this year, the survey was based on an aggregation of twenty-one companies' estimates of their own activity levels for 1987 and 1992 for several oil price scenarios.

Though the decline in production is in line with the survey's results, this year's employment and drilling declines are well ahead of the trend implied by the survey. For the $15-per-barrel scenario—closest to recent experience—industry employment was projected to decline by 200,000 jobs by 1987; to date, employment has already declined by 150,000 from the end of last year. Also according to that scenario, well completions declined by 55 percent from 1985 to 1987, while current API estimates of third quarter completions already show a 48 percent year-to-year decline. Third quarter oil well completions (not included in the survey) are estimated to be down even more—by over 60 percent.

Even in Alaska, where production is ahead about 50 thousand B/D year to date and development work continues, lower oil prices are affecting some production decisions. A proposal to suspend North Slope production at Milne Point for economic reasons is currently undergoing the approval process. Current production there is about 10 thousand B/D.

Imports

HIGHEST NOVEMBER LEVEL OF 1980s.

November's 5.2 percent, 314 thousand B/D year-to-year rise in imports contrasts sharply with higher increases, some over 2 million B/D, earlier in the year. The explanation lies not so much in reduced imports this November—imports were up from October's level and were the highest for November since 1979—but in the surge in imports that began last fall as some OPEC members' efforts to increase market share began to take effect. Imports in November of last year had risen by nearly 1.5 million B/D within three months to reach their highest level of 1985.

Product imports declined 150 thousand B/D this November, year to year, with declines for most major products. The decline for distillates largely reflects unusually high imports last November. Year to date, however, product imports have risen about 90 thousand B/D.

Refinery Operations

UTILIZATION UP 3 PERCENTAGE POINTS.

Refining activity picked up in the latter half of the month, in part a response to the arrival of colder weather in many parts of the country. This brought the month's utilization rate to about 83 percent, up nearly 3 points from last year. Though distillate production was at the second highest level for November since 1979, it declined about 5 percent from last November—a month when refinery distillate yields had been unusually high.

Inventories

STOCK BUILD REVERSES.

While stocks had been building more than seasonally from late spring through September, this accumulation diminished in October and reversed in November. With little incentive to add to inventories still 8 percent higher than a year ago, November's increased deliveries helped to draw down stocks by 8 million barrels, compared with an average 10 million barrel increase for that month historically. Most of the decline was in product stocks; despite the cold weather, distillate stocks declined only 1 million barrels and ended the month more than 10 million barrels above last November.

(In millions of B/D)	NOVEMBER ESTIMATES			YEAR-TO-DATE ESTIMATES		
	1986	1985	% Change	1986	1985	% Change
—Total supply	17.2	17.4	(1.4)	17.1	16.2	5.9
—Crude production[2/]	8.5	8.9	(5.0)	8.8	9.0	(2.2)
—Crude oil imports[3/]	4.4	3.9	11.8	4.0	3.0	33.4
—Product imports	2.0	2.1	(7.1)	1.9	1.8	5.0

1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 509 million barrels as of November 30, 1986).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	NOVEMBER			YEAR-TO-DATE		
	1986[1]	1985[2]	% Change	1986[3R]	1985[2]	% Change
Products Supplied:						
Total motor gasoline	7,003	6,770	3.4	7,016	6,835	2.6
Finished leaded motor gasoline*	1,921	2,293	(16.2)	2,184	2,443	(10.6)
Finished unleaded motor gasoline*	5,082	4,477	13.5	4,832	4,392	10.0
Naphtha-jet	220	211	4.3	209	216	(3.2)
Kerosine-jet	1,254	1,066	17.6	1,106	991	11.6
Distillate fuel oil	3,070	2,747	11.8	2,883	2,832	1.8
Residual fuel oil	1,433	1,290	11.1	1,380	1,176	17.3
All other oils[4]	3,994	3,783	5.6	3,837	3,850	(0.3)
Reclassified[5]	- 344	- 363	(5.2)	- 326	- 255	27.8
Total domestic products supplied	16,630	15,504	7.3	16,105	15,645	2.9
Exports	791	1,036	(23.6)	759	768	(1.2)
Total products supplied	17,421	16,540	5.3	16,864	16,413	2.7
Supply:						
Domestic production:						
Crude oil[6]	8,459	8,902	(5.0)	8,773	8,966	(2.2)
Natural gas liquids	1,546	1,660	(6.9)	1,579	1,603	(1.5)
Other supply[7]	784	790	(0.8)	811	749	8.3
Total domestic supply	10,789	11,352	(5.0)	11,163	11,318	(1.4)
Imports:						
Crude oil, total	4,410[10/]	3,946[10/]	11.8	4,046[10/]	3,033[10/]	33.4
Canadian	561	443	26.6	545	461	18.2
Other	3,849	3,503	9.9	3,501	2,572	36.1
Products, total	1,968	2,118	(7.1)	1,933	1,841	5.0
Residual fuel oil	592	628	(5.7)	633	495	27.9
Other	1,376	1,490	(7.7)	1,300	1,346	(3.4)
Total imports	6,378	6,064	5.2	5,979	4,874	22.7
Total supply	17,167	17,416	(1.4)	17,142	16,192	5.9
Stock change, all oils	- 254	+ 876	XXXX	+ 278	- 221	XXXX
Refinery Operations						
Input to crude oil distillation units	12,975	12,629	2.7	12,826	12,111	5.9
Operable capacity	15,594	15,730	(0.9)	15,502	15,670	(1.1)
Refinery utilization (%)[8]	83.2%	80.3%	3.6	82.7%	77.3%	7.0
Crude oil runs	12,825	12,410	3.3	12,710	11,949	6.4

Stocks (millions bbls.)	1986		1985[2]	% Change from ...	
	Nov. 30[9]	Oct. 31[9]	Nov. 30	Previous Month	Year Ago
Crude oil 10/	344.8	347.0	320.9	(0.6)	7.4
Unfinished oils	101.1	103.7	109.9	(2.5)	(8.0)
Total motor gasoline**	226.7	222.1r/	217.0	2.1	4.5
Finished leaded motor gasoline*	65.0	63.7r/	74.5	2.0	(12.8)
Finished unleaded motor gasoline*	123.9	121.4r	108.7	2.1	14.0
Naphtha-jet	6.8	6.9	6.8	(1.4)	-
Kerosine-jet	41.7	43.1	36.4	(3.2)	14.6
Distillate fuel oil	150.2	151.4r/	139.7	(0.8)	7.5
Residual fuel oil	46.2	47.6r/	50.3	(2.9)	(8.2)
All other oils	200.7	204.0r/	150.9	(1.6)	33.0
Total all oils	1,118.2	1,125.8r/	1,031.9	(0.7)	8.4

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-September, U.S. Department of Energy, October-November, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes unaccounted-for crude oil, refinery input of other hydrocarbons, and processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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ESTIMATED U.S. PETROLEUM BALANCE

SUMMARY

The unprecedented oil price decline of 1986 brought with it higher demand growth, declining domestic production, and increasing imports—with these trends becoming even more evident as the year progressed. The year witnessed:

- The lowest crude oil and product prices, after adjusting for inflation, since the Arab oil embargo of 1973.
- The highest annual deliveries since 1980, as lower prices encouraged increased consumption and fuel switching.
- The largest annual decline in the number of wells drilled; if the fourth quarter matched the estimated 48 percent drop for the third quarter, well completions for the year will have fallen by over 25,000 (nearly 40 percent) due to this year's oil price drop.
- The lowest lower 48 production since the 1950s, in the latter part of the year, and the first major decline in total production since the price-controlled 1970s, in response to reduced drilling, curtailed well servicing, and increased abandonments.
- As a result of increasing demand and falling production, the highest annual imports since 1980 and a dramatic reversal of the generally declining-to-stable trend in imports of the prior eight years.

Further examination reveals the acceleration of many petroleum market trends over the year. Total deliveries rose 4 percent in the second half of the year, more than twice the rate of the first six months. Crude oil production, which declined an estimated 0.9 percent in the first half, fell nearly 6 percent in the second. Though the annual average increase in imports of 1.1 million B/D was enough to allow some building of inventories earlier in the year, even after the year's higher demand and lower domestic production are taken into account, this was no longer the case by the fourth quarter. The most recent rates of increase for deliveries and decline for domestic production indicate year-to-year growth in imports requirements—for current consumption only, without any provision for inventories—at least as large.

Gasoline deliveries' growth rate, too, increased from the first half to the second, rising 1.4 percent, January to June, and nearly 4 percent for the remaining months. Distillate deliveries rose only slightly for the year, mainly due to increased use of on-highway diesel, while fuel switching at utilities gave residual fuel oil deliveries their first increase—of almost 18 percent—in nearly ten years. Because of strong growth in air traffic, kerosine jet fuel deliveries rose 10 percent to a new annual high of 1.1 million B/D. Deliveries of other oils changed only slightly.

Though inventory building from May through September added more than 130 million barrels to stocks, the fourth quarter draw of 45 million barrels was well above the 7 million barrel average of the previous five years. As a result, stocks ended the year only 43 million barrels ahead of 1985 and lower than December stocks for several prior years.

PRODUCT SUPPLIED[1/]

Total Energy

PETROLEUM'S SHARE REVERSES DECLINE. Total energy consumption rose only slightly for the year as a whole, but estimated growth in the second half was close to one percent due to rising petroleum deliveries (see Table 1). As a result of this upturn in petroleum demand, displayed in Figure 1, oil's share of energy consumption rose over a percentage point in 1986, the first such increase in nearly ten years. Natural gas experienced the largest loss of market share, with declining industrial use and fuel switching at electric utilities the major causes. In fact, natural gas' share slipped below that of coal for the first time since the 1950s despite an excess of U.S. production capacity estimated by some at 2 trillion cubic feet per year. Coal consumption underwent little change, contrasting with three prior years of uninterrupted growth, while gains for other sources—primarily due to increased nuclear generating capacity—balanced out the shifts in energy consumption.

TABLE 1
ESTIMATED ENERGY CONSUMPTION AND SHARES BY TYPE
Consumption (Quadrillion BTU Annually)

	Coal	Natural Gas	Petroleum	Other	Total
1985	17.5	17.9	30.9	7.7	73.9
1986	17.4	16.8	31.8	8.1	74.1
Change	-0.1	-1.0	0.9	0.4	0.2
Percent change	-0.5%	-5.8%	2.9%	5.1%	0.2%
Market Shares (Percent)					
1985	23.7	24.1	41.8	10.4	100.0
1986	23.5	22.7	42.9	10.9	100.0
Percentage point change in share	-0.2	-1.4	1.1	0.5	
Year-to-Year Percent Change in BTUs by Half Year					
First half	-1.1%	-5.0%	1.8%	3.9%	-0.4%
Second half	0.0%	-6.8%	4.0%	6.3%	0.9%

Note: Figures rounded independently; calculations based on unrounded data.
Sources: Department of Energy, API estimates.

In examining trends in the ratio of energy consumed to U.S. economic output, annual averages again obscure more recent developments. For the year, this measure of energy intensity is down an estimated 2.3 percent, similar to the average 2.4 percent decline rate of the prior four years. Figure 2, however, suggests that the decline rate has slackened in more recent quarters to around 1.5 percent. Though there is some possibility that this only reflects some of the variability of the measure that has been experienced in the past, it is more likely that slowing of energy efficiency improvements actually took place as a predictable result of lower energy prices. In any case, the figure clearly shows that, while energy intensity overall may still be declining, consumption of petroleum per unit of economic output reversed its long-term decline in 1986. For the second half, it is estimated to have risen about 1.5 percent, year to year, contrasting with an average annual decline rate of about 4 percent for 1980 to 1985.

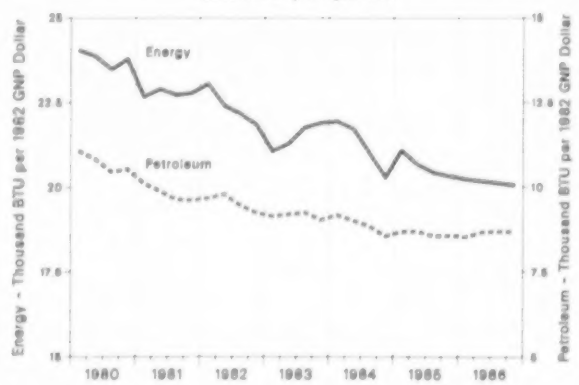
Figure 1

SEASONALLY ADJUSTED PRODUCT SUPPLIED

Sources: Department of Energy, American Petroleum Institute.

Figure 2

ENERGY AND PETROLEUM CONSUMED PER DOLLAR OF REAL GNP
(Seasonally Adjusted)



Sources: Department of Energy, Department of Commerce, API estimates.

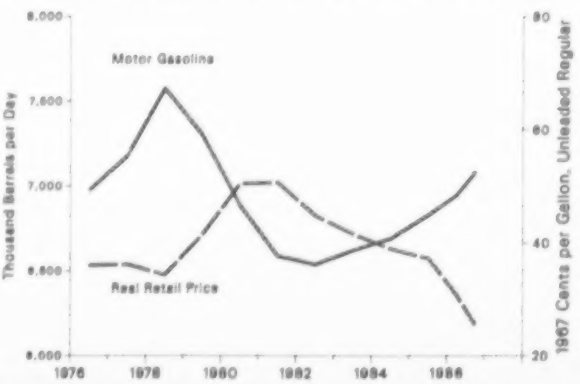
Gasoline

SECOND HALF GROWTH MORE THAN DOUBLES FIRST. Gasoline deliveries' 2.6 percent increase for the year partially masks an acceleration in growth between the first and second halves. While first half deliveries rose only 1.4 percent—not out of line with 1985's increase of about 2 percent—the large price declines that by midyear had brought gasoline prices at the pump to levels about 30 percent below those of a year earlier encouraged increased consumption during the second half. As a result, growth in deliveries in the last six months of the year more than doubled, climbing to 3.8 percent.

The inverse relation between real gasoline prices and gasoline demand experienced in 1986 is also clearly observable over the past decade, as shown in Figure 3. When prices rose sharply from 1979 to early 1981, gasoline demand reversed its steady increase of the prior four years.

Figure 3

MOTOR GASOLINE SUPPLIED AND REAL GASOLINE PRICES



Sources: Department of Energy, American Petroleum Institute, Bureau of Labor Statistics.
Note: 1986 data have been split into first and second halves, seasonally adjusted.

When prices began to decline in 1981 and later years, deliveries soon bottomed out and started to inch up again, despite continued improvements in the vehicle fleet's efficiency. The sharp price drop in 1986—at year-end, retail gasoline prices were at less than half the early 1981 peak, after adjusting for inflation—corresponds with a further increase in gasoline deliveries' growth rate. Gasoline's nearly 4 percent rise of the past six months contrasts with the only 1.5 percent average growth rate of 1982-85.

Unleaded's share continued to rise during the year, reaching 73 percent by year-end. Though for the year as a whole, the gain in market share amounted to 4.8 percentage points, about the same as in 1985, gains late in the year were somewhat larger as many companies began to market midgrade unleaded either regionally or on a test basis. Unleaded premium also made significant gains during the year, largely at the expense of unleaded regular, achieving a market share of 18 percent by the end of the third quarter.

The growth in gasoline deliveries slipped to 1.3 percent (85 thousand B/D) in December, though there is no reason to believe consumption did not continue to grow at the higher rates typical of the past several months. Despite December's smaller increase, deliveries for the fourth quarter as a whole still rose 3.2 percent.

Distillates

ON-HIGHWAY DIESEL MAIN CONTRIBUTOR TO GROWTH.

Though the fluctuations in distillate deliveries in recent months continued in December, over the longer term, growth has been more stable. The fourth quarter's rise averaged 2.2 percent and the year as a whole showed only a 1.2 percent increase—only marginally higher than 1985's.

As Table 2 shows, most of 1986's increase came from growing on-highway use, up an estimated 3.3 percent, similar to the previous year's growth but down from the 8 to 10 percent jumps of 1983 and 1984. On-highway diesel's share of distillate deliveries has increased by about 10 percentage points since 1980, to 40 percent, mainly due to declines for most other sectors and a roughly 30 percent increase in on-highway use.

For the residential and commercial sectors, which now account for only one fourth of all distillate deliveries, the lower prices of 1986 have largely stabilized conversions to other fuels. However, there has been little opportunity to observe how much of an effect lower fuel oil prices have had on consumption in existing homes and commercial buildings because the largest portion of heating oil use typically occurs early in the year—for 1986, before the price decline could have had much impact.

Other sectors, as a group, experienced little change. Estimated farm use declined along with farm activity, while most other sectors added only slightly to distillate volumes.

Distillate deliveries' 3.9 percent, 127 thousand B/D decline in December followed a nearly 12 percent increase for the prior month. However, as with November's increase, at least part of December's decline is also explained by weather. Largely because of unusually cold temperatures a year ago, this past December was about 18 percent warmer by comparison. This can be expected to have reduced consumption year-to-year by about 250 thousand B/D. Even with an increase of perhaps 40 thousand B/D for on-highway diesel, deliveries for December appear to be about 80 thousand B/D higher than indicated consumption.

Residual Fuel Oil

FIRST ANNUAL INCREASE IN NEARLY TEN YEARS.

Residual fuel oil ended the year with another strong gain—and the increase for 1986 as a whole was the first for residual fuel oil in nearly ten years. After an average decline of about 235 thousand B/D per year between 1977 and 1985, the 17.7 percent, 213 thousand B/D increase for the year represents a strong reversal. As Table 3 shows, nearly the entire increase for 1986 was in the electric utility sector where lower prices encouraged fuel switching, particularly on the East Coast. Bunkering declined slightly and industrial use showed an increase. As a result of this year's shifts in sector deliveries, electric utilities now account for about 43 percent of residual fuel oil use, up almost 10 points in one year.

December's 18 percent increase in deliveries followed November's lesser rise of 11 percent, the smallest gain since February. Apparently, higher seasonal electricity demand increased residual fuel oil's role as an incremental fuel source in December, much as summer electricity demand peaks did earlier in 1986.

TABLE 2

ESTIMATED DISTILLATE DELIVERIES BY SECTOR
(Thousand B/D)

	1985	1986	Percent Change
Residential and commercial	765	760	-0.7%
Farm	216	205	-5.1
Industrial	169	171	1.2
Oil companies	57	60	5.3
Utilities	34	40	17.6
On-highway	1,127	1,164	3.3
Railroad	209	210	0.5
Bunkering	124	126	1.6
Off-highway	105	106	1.0
Military	50	50	0.0
Other	12	11	-8.3
Total	2,868	2,903	1.2%

Sources: Department of Energy, API estimates.

TABLE 3

ESTIMATED RESIDUAL FUEL OIL DELIVERIES BY SECTOR
(Thousand B/D)

	1985	1986	Percent Change
Utilities	403	607	50.6%
Bunkering	357	350	-2.0
Industrial	262	275	5.0
Oil company	51	55	7.8
Commercial	87	86	-1.1
Military	13	13	0.0
Other	29	29	0.0
Total	1,202	1,415	17.7%

Sources: Department of Energy, API estimates.

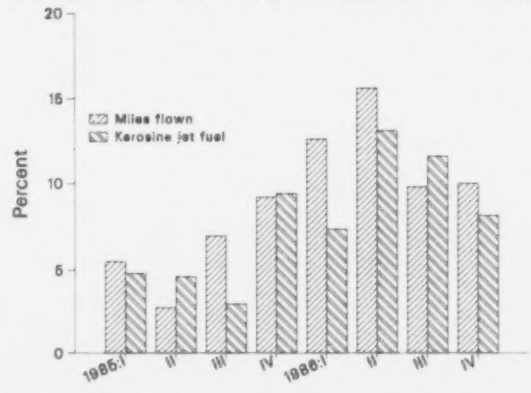
Kerosine Jet Fuel

STRONG AIR TRAFFIC GROWTH RAISES DELIVERIES. Kerosine jet fuel deliveries reached a new annual high in 1986—1.1 million B/D—the 10.0 percent gain the result of strong growth in air traffic for the year.

As Figure 4 shows, revenue miles flown jumped 13 and 16 percent, respectively, in the first two quarters of 1986. Though second half growth was slightly less—about 10 percent—the increase for the year as a whole was still double the 6 percent increase of 1985. The decline in international revenue passenger miles, especially in late spring and early summer, did not keep available seat-miles on international flights from rising 7 percent (11 month's data). More significantly for jet fuel demand, domestic flights, which account for about four-fifths of total available seat miles, experienced a 13 percent gain by this measure. Air cargo traffic rose about 9 percent for the year.

Figure 4

YEAR-TO-YEAR CHANGE IN REVENUE MILES FLOWN AND KEROSINE JET FUEL DELIVERIES



Sources: Department of Transportation, Department of Energy, American Petroleum Institute, API estimates.

Though changes in kerosine jet fuel deliveries have tracked changes in miles flown only partially on a quarterly basis, for the year as a whole the correspondence is quite close—as with miles flown, kerosine jet fuel deliveries' 10 percent increase was about double that of 1985.

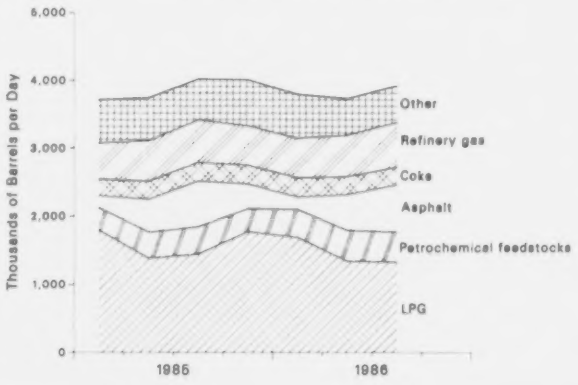
Other Oils

ALMOST EVEN FOR THE YEAR. Deliveries of other oils rose only marginally for the year, following an increase of only 1 percent in 1985. Figure 5 displays the relatively flat performance of this portion of petroleum deliveries over the past two years.

One of the year's major developments, however, was a shift of product demand within the "other oils" category due to changing economics of petrochemical feedstocks. Because crude oil prices declined by much more, proportionally, than natural gas prices, petroleum-based feedstocks in many cases became more attractive than natural gas liquids as petrochemical inputs. As a result, ethane and propane deliveries both declined about 9 percent (ten month's data) while deliveries of naphtha and gasoil feedstocks rose about 19 percent. Nevertheless, natural gas liquids remain a principal input, since many plants are designed mainly for lighter feedstocks.

Figure 5

DELIVERIES OF OTHER OILS



Source: Department of Energy

According to Department of Energy data, deliveries of butanes increased more than 30 percent for ten months, despite indications of reduced chemical usage in 1986. With ethane and propane deliveries falling and butane deliveries rising, the net decline for total liquefied petroleum gases was only about 5 percent. Deliveries of asphalt were up 6 percent for ten months while petroleum coke deliveries stayed about even. Increased refining utilization in 1986 raised refinery gas production and consumption by about 5 percent.

(In millions of B/D)	DECEMBER ESTIMATES			YEAR-TO-DATE ESTIMATES		
	1986	1985	% Change	1986	1985	% Change
—Total domestic products supplied	16.8	16.6	1.3	16.2	15.7	2.9
—Motor gasoline supplied	6.9	6.8	1.3	7.0	6.8	2.6
—Distillate fuel oil supplied	3.1	3.3	(3.9)	2.9	2.9	1.2
—Residual fuel oil supplied	1.8	1.5	18.3	1.4	1.2	17.7

SUPPLY[1/]

December's total supply fell 707 thousand B/D year to year, despite a 769 thousand B/D rise in imports. A decline in domestic supply of 1,476 thousand B/D—more than half of it due to lower production of crude oil and natural gas liquids—was responsible.

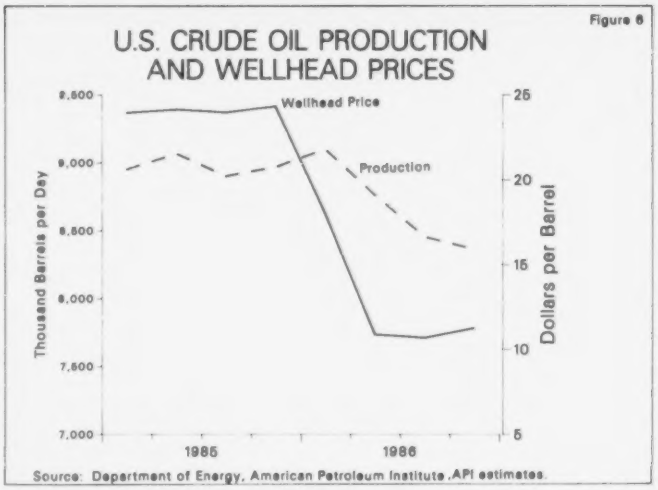
Production

DECLINE INCREASES AS YEAR PROGRESSES. December's 695 thousand B/D, 7.7 percent decline in crude oil production—one of the largest for 1986—brought the year's average drop to about 3.4 percent. However, the year-to-year decline accelerated as the year progressed. Production in the first half slipped 0.9 percent, while third quarter production fell 5.0 percent and the fourth quarter, 6.7 percent. This was the first major decline since the price-controlled 1970s and reflected a dramatic falloff in crude production by December of over 800 thousand B/D from this year's February high of 9,181 thousand B/D. As Figure 6 shows, the decrease in production followed closely on the heels of crude oil's substantial price drop to levels only about half of those in 1985.

The year's decline would have been even greater had it not been for an increase in Alaskan production of about 40 thousand B/D for the year, as field development projects, some of which were already underway before this year's price decline, were implemented. In the lower 48, however, production has been running at an estimated 6.5 million B/D, more reminiscent of production levels of the 1950s than of more recent decades. According to API's *Crude Oil Price Effects Survey*, if prices continued at the $15-per-barrel level experienced near the end of 1986, U.S. production by 1991 would decline by another 2 million B/D to 6.2 million B/D.

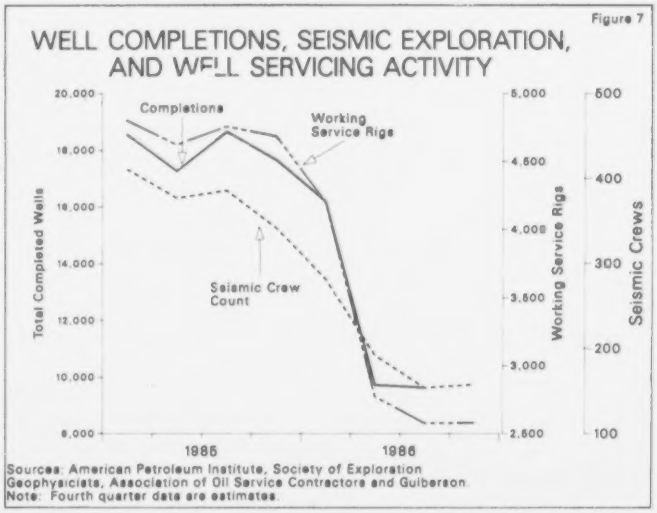
Natural gas liquids, which account for about one sixth of domestic petroleum liquids production, have also been declining in recent months. December's production declined an estimated 195 thousand B/D from the previous December. Including crude oil, total liquids production for the fourth quarter fell 6 percent, or more than 630 thousand B/D, year to year.

Figure 6



Source: Department of Energy, American Petroleum Institute, API estimates.

Figure 7



Sources: American Petroleum Institute, Society of Exploration Geophysicists, Association of Oil Service Contractors and Guiberson.
Note: Fourth quarter data are estimates.

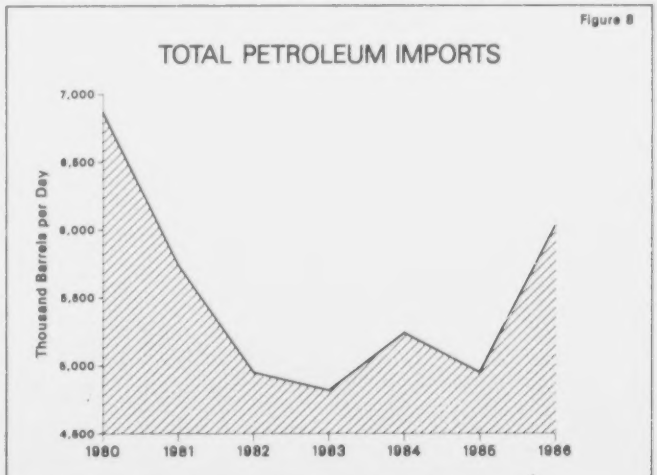
The decline in crude oil production has been the result not only of reduced exploration and drilling, but reduced maintenance and shorter economic life for existing wells. Figure 7 shows how sharply these activities have declined in the past year. The number of seismic crews exploring for oil and gas has fallen by 50 to 60 percent year to year for the most recent months, and has been at only about one fourth of 1981's peak level. With the average cost of drilling a well at approximately $280,000 onshore and over $4 million offshore, according to the recently-released *Joint Association Survey* for 1985, lower prices have brought about a reduction in drilling that reached a 48 percent decline by the third quarter. If the fourth quarter's decrease was similar, drilling in 1986 will have declined by roughly 25,000 wells—nearly 40 percent—in one year. Economic considerations have also reduced incentives to maintain and service existing wells, and the number of active service rigs has consequently fallen to about half the prior year's level. Without maintenance and servicing, a well's productive capacity declines more rapidly, and combined with lower per-barrel revenues to cover production costs, reduces its economic life even further.

Imports

YEAR'S IMPORTS NOT MATCHED SINCE 1980. Total imports rose 769 thousand B/D year to year in December, but the actual increase in imports requirements has been running about 75 percent higher than that rate in recent months. A larger inventory draw this December than last—1985's was substantially less than average for the month—kept the rise in actual imports from being larger. For the year as a whole, imports rose 1.1 million B/D to the highest level since 1980 (see Figure 8), a dramatic reversal of the declining-to-stable trend of the prior eight years.

While actual imports had exceeded consumption needs midyear, and have since declined somewhat, imports requirements are still growing. In the fourth quarter, domestic deliveries rose about 600 thousand B/D, crude oil production fell about 600 thousand B/D, and natural gas liquids production fell about 150 thousand B/D, year to year. The

Figure 8



Sources: Department of Energy, American Petroleum Institute.

combined effect of these was an increase in the need for imports of over 1.3 million B/D—or an annual rate of 20-25 percent.

This is, by coincidence, not much more than the average increase in imports for the year 1986. But, though earlier in the year, some of the imports increase was available for building inventories, the 1.3 million B/D increase in imports requirements calculated above would only be able to supply current demand, without any addition to inventory.

Almost the entire increase in imports in 1986 came from OPEC countries. For the first ten months, imports from Arab OPEC members alone increased 734 thousand B/D and accounted for two thirds of the total imports increase. More significant than shifts in this country's foreign oil suppliers is what these shifts reflect about world markets, namely, that OPEC remains as the world's marginal supplier of crude oil.

Refinery Operations

UTILIZATION RATE HIGHEST SINCE 1979.

Rising demand and replenishment of product inventories brought refinery utilization in 1986 to the highest annual level since 1979.

From 1981 to 1985, percentage utilization rates averaged only in the 60s and 70s, due to low levels of domestic demand. As shown in Figure 9, gradual closure of excess refining capacity from 1981 to 1985 brought total operable capacity down about 16 percent or 2.9 million B/D. In 1986, operable capacity declined only slightly while input jumped over 5 percent. This brought the average utilization rate for the year up to almost 83 percent, with a peak of 87 percent in August.

Though the annual average of about 83 percent is still less than the highs near 90 percent of the mid-70s, operable capacity does not reflect all aspects of the current refinery situation. First, perhaps 500 thousand B/D of capacity listed as operable has not been in operation for at least a year. Second, operable capacity is a measure only of crude oil distillation capability. With growing gasoline demand, lead phasedown, and other changing product requirements, the utilization of downstream units has been greater than that implied by the traditional utilization figure.

Inventories

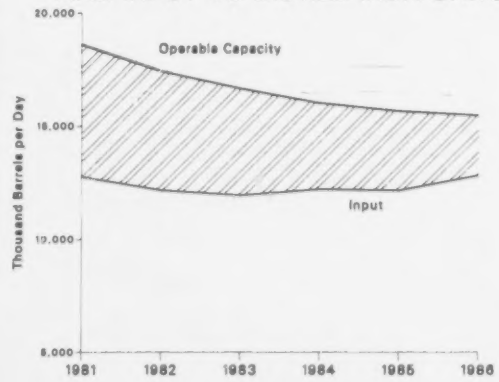
DRAWDOWN CONTINUES.

December's inventory decline of 30 million barrels, slightly more than the average of the previous five years, continued the decreases of the previous two months. Stocks had been building earlier in the year, rising more than 130 million barrels during May through September. During the fourth quarter, however, total stocks dropped 45 million barrels, substantially more than the 7 million barrel average of the previous five years, and ended the year only 43 million barrels ahead of December 1985. As Figure 10 shows, end-of-year stocks were not unusually high compared with previous years, and, in fact, were more than 200 million barrels less than at the end of 1980.

Distillate stocks increased 3 million barrels during December, compared with an average December decline of about 7 million barrels, and ended the year 10 million barrels ahead of last year.

Figure 9

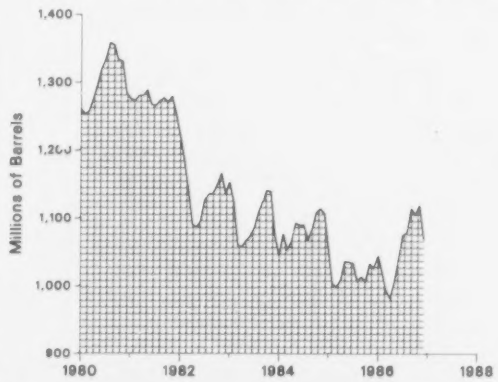
ANNUAL AVERAGE REFINERY CAPACITY AND INPUT TO DISTILLATION UNITS



Source: Department of Energy, American Petroleum Institute.

Figure 10

TOTAL PETROLEUM INVENTORIES



Sources: Department of Energy, American Petroleum Institute.

(In millions of B/D)	DECEMBER ESTIMATES			YEAR-TO-DATE ESTIMATES		
	1986	1985	% Change	1986	1985	% Change
—Total supply	16.6	17.3	(4.1)	17.1	16.3	4.8
—Crude production[2/]	8.3	9.0	(7.7)	8.7	9.0	(3.4)
—Crude oil imports[3/]	4.4	3.6	21.8	4.1	3.1	32.2
—Product imports	2.1	2.1	(1.0)	2.0	1.9	4.6

1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 512 million barrels as of December 31, 1986).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	DECEMBER			YEAR-TO-DATE		
	1986[1]	1985[2]	% Change	1986[3R]	1985[2]	% Change
Products Supplied:						
Total motor gasoline	6,877	6,792	1.3	7,012	6,831	2.6
Finished leaded motor gasoline*	1,854	2,231	(16.9)	2,154	2,425	(11.2)
Finished unleaded motor gasoline*	5,023	4,561	10.1	4,858	4,406	10.3
Naphtha-jet	201	192	4.7	204	214	(4.7)
Kerosine-jet	1,214	1,152	5.4	1,105	1,005	10.0
Distillate fuel oil	3,127	3,254	(3.9)	2,903	2,868	1.2
Residual fuel oil	1,755	1,483	18.3	1,415	1,202	17.7
All other oils[4]	4,015	4,081	(1.6)	3,878	3,870	0.2
Reclassified[5]	- 365	- 342	6.7	- 334	- 262	27.5
Total domestic products supplied	16,824	16,612	1.3	16,183	15,728	2.9
Exports	769	925	(16.9)	766	781	(1.9)
Total products supplied	17,593	17,537	0.3	16,949	16,509	2.7
Supply:						
Domestic production:						
Crude oil[6]	8,335	9,030	(7.7)	8,667	8,971	(3.4)
Natural gas liquids	1,485	1,680	(11.6)	1,567	1,609	(2.6)
Other supply[7]	276	862	(68.0)	804	759	5.9
Total domestic supply	10,096	11,572	(12.8)	11,038	11,339	(2.7)
Imports:						
Crude oil, total	4,412 10/	3,621 10/	21.8	4,077 10/	3,083 10/	32.2
Canadian	599	540	10.9	555	468	18.6
Other	3,813	3,081	23.8	3,522	2,615	34.7
Products, total	2,113	2,135	(1.0)	1,952	1,866	4.6
Residual fuel oil	814	681	19.5	646	510	26.7
Other	1,299	1,454	(10.7)	1,306	1,356	(3.7)
Total imports	6,525	5,756	13.4	6,029	4,949	21.8
Total supply	16,621	17,328	(4.1)	17,067	16,288	4.8
Stock change, all oils	- 972	- 209	XXXX	+ 118	- 221	XXXX
Refinery Operations						
Input to crude oil distillation units	13,027	12,744	2.2	12,833	12,165	5.5
Operable capacity	15,594	15,687	(0.6)	15,494	15,671	(1.1)
Refinery utilization (%)[8]	83.5%	81.2%	2.8	82.8%	77.6%	6.7
Crude oil runs	12,870	12,570	2.4	12,716	12,002	5.9

Stocks (millions bbls.)	1986		1985[2]	% Change from ...	
	Dec. 31[9]	Nov. 30[9]	Dec. 31	Previous Month	Year Ago
Crude oil 10/	323.4	344.5r/	320.9	(6.1)	0.8
Unfinished oils	94.9	101.1	106.7	(6.1)	(11.1)
Total motor gasoline**	237.5	226.8r/	222.8	4.7	6.6
Finished leaded motor gasoline*	67.9	65.0	81.4	4.5	(16.6)
Finished unleaded motor gasoline*	130.4	123.9	108.9	5.2	19.7
Naphtha-jet	7.0	6.8	6.7	2.9	4.5
Kerosine-jet	42.2	41.7	33.8	1.2	24.9
Distillate fuel oil	153.2	150.2	143.7	2.0	6.6
Residual fuel oil	43.4	46.2	50.4	(6.1)	(13.9)
All other oils	167.1	181.5r/	140.5	(7.9)	18.9
Total all oils	1,068.7	1,098.8r/	1,025.5	(2.7)	4.2

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-October, U.S. Department of Energy, November-December, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes unaccounted-for crude oil, refinery input of other hydrocarbons, and processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	4th QUARTER		
	1986[1]	1985[2]	% Change
Products Supplied:			
Total motor gasoline	7,035	6,820	3.2
Finished leaded motor gasoline*	1,979	2,312	(14.4)
Finished unleaded motor gasoline*	5,056	4,508	12.2
Naphtha-jet	209	207	1.0
Kerosine-jet	1,174	1,086	8.1
Distillate fuel oil	3,034	2,970	2.2
Residual fuel oil	1,470	1,271	15.7
All other oils[3]	4,067	4,005	1.5
Reclassified[4]	- 361	- 334	8.1
Total domestic products supplied	16,628	16,025	3.8
Exports	794	882	(10.0)
Total products supplied	17,422	16,907	3.0
Supply:			
Domestic production:			
Crude oil[5]	8,364	8,968	(6.7)
Natural gas liquids	1,505	1,650	(8.8)
Other supply[6]	679	787	(13.7)
Total domestic supply	10,548	11,405	(7.5)
Imports:			
Crude oil, total	4,367[9/]	3,591[9/]	21.6
Canadian	587	488	20.3
Other	3,780	3,103	21.8
Products, total	1,994	2,044	(2.4)
Residual fuel oil	669	617	8.4
Other	1,325	1,427	(7.1)
Total imports	6,361	5,635	12.9
Total supply	16,909	17,040	(0.8)
Stock change, all oils	- 513	+ 133	XXXX
Refinery Operations			
Input to crude oil distillation units	12,914	12,578	2.7
Operable capacity	15,534	15,717	(1.2)
Refinery utilization (%)[7]	83.1%	80.0%	3.9
Crude oil runs	12,774	12,396	3.0

Stocks (millions bbls.)	4th QUARTER		
	1986[8]	1985[2]	% Change
Crude oil	323.4[9/]	320.9[9/]	0.8
Unfinished oils	94.9	106.7	(11.1)
Total motor gasoline**	237.5	222.8	6.6
Finished leaded motor gasoline*	67.9	81.4	(16.6)
Finished unleaded motor gasoline*	130.4	108.9	19.7
Naphtha-jet	7.0	6.7	4.5
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Total all oils	1,068.7	1,025.5	4.2

1/ Source: U.S. Department of Energy, October; November-December, API.
2/ Source: U.S. Department of Energy.
3/ Includes crude losses.
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5/ Includes lease condensate.
6/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
7/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
8/ Derived by interpolating API weekly stocks data.
9/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

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JANUARY 1987

SUMMARY

With only slight growth in gasoline deliveries and a slackening in the rate of increase for residual fuel oil, January's growth in total deliveries was somewhat less than that experienced during the latter half of last year. For a number of reasons, the 4.1 percent, 657 thousand B/D rise in total deliveries as calculated against the Department of Energy's figure for last January is significantly larger than likely consumption increases. First, last January's figure was understated by about 200 thousand B/D due to treatment of new inventory data for that month. Second, falling prices a year ago provided a strong incentive for distributors and end users to postpone purchases, causing deliveries in that month to fall by perhaps 200 to 300 thousand B/D from prior trends. Once adjustment is made for these factors, this January's increase would likely have been only 1 or 2 percent, contrasting with the 1986 second-half increase now calculated at 3.4 percent with the inclusion of somewhat surprising Department of Energy data for November.

Gasoline deliveries' meager 0.2 percent rise was at least partly due to weather-related road conditions, and residual fuel oil deliveries also rose less rapidly than in the recent past because of reduced fuel switching. However, weather colder than last year helped to raise distillate deliveries, and kerosine jet fuel continued its strong growth with an 11 percent year-to-year increase.

An increase in Alaskan crude oil production of nearly 150 thousand B/D, at least partly due to recent completion of longer-term development projects, only partially masked a decline in lower 48 production of about 830 thousand B/D. The nearly 700 thousand B/D decline for the U.S. as a whole was even larger than most of the year-to-year declines in the price-controlled 1970s. Imports, up over 1 million B/D from last January, continued in the 6.2 to 6.5 million B/D range of the past several months, with the entire increase accounted for by crude oil.

Total stocks fell 13 million barrels, less than usual for January, in contrast to the fourth quarter's more-than-seasonal decline. Emphasis on gasoline production at refineries, combined with the small increase in deliveries, helped to boost gasoline stocks by 15 million barrels, over 10 million barrels more than the average January increase of recent years. Distillate stocks, as well, declined by only half the typical amount; crude stocks rose slightly.

PRODUCTS SUPPLIED[1/]

Gasoline

WEATHER SLOWS GASOLINE DELIVERIES... Gasoline deliveries' minimal 0.2 percent increase for January contrasts with growth in the latter half of 1986 now estimated at 3.5 percent. Unusually heavy snows in the highly-populated East, resulting in snow cover ranging from 15 to 30 inches or more from Virginia northward, slowed less essential travel in those regions in the latter part of the month.

However, January's small increase follows a December rise that was not much larger than 1 percent; it may well be that gasoline deliveries' strong upward trend during the last half of 1986 has been moderating somewhat, though not by as much as the past two months' deliveries data suggest. In fact, latest data on the growth in miles travelled do not correlate with monthly Department of Energy data, to which API data are benchmarked. Recent increases in miles travelled have been running around 5 percent, and even allowing for offsetting fuel efficiency improvements, consumption growth of at least 3 percent is indicated.

Retail gasoline prices rose about 5 cents per gallon for the month but were still roughly only three quarters of the level immediately preceding last year's price decline. The average cost of crude oil to refiners increased on the order of 14 cents per gallon since July as world prices rose in response to OPEC efforts to reduce production; however, retail gasoline prices in January averaged at most 5 to 6 cents higher than July's. Even taking into account a roughly 5-cent-per-gallon historical seasonal decline for retail prices between July and January, much of the recent increase in crude oil costs has evidently not been passed through.

Surprisingly, 1986's lower gasoline prices apparently did not alter the size distribution of car sales dramatically last year. Although for the year's domestic sales, the market share of intermediate-and-larger cars rose about a percentage point, increased imports, which are weighted towards smaller vehicles, probably more than offset the domestic size increase. However, since 1981, when gasoline prices peaked, larger cars have gained some 7 points in market share to reach nearly 43 percent of the total.

Distillates

...BUT INCREASES HEATING OIL USE. January's distillate deliveries jumped 7.4 percent (241 thousand B/D) compared with the year-ago deliveries as reported by the Department of Energy, though actual consumption probably grew only 3 percent or

less. One reason for the difference is that the year-ago deliveries figure was understated by about 95 thousand B/D as a result of the method used to incorporate new inventory data in the Department's reporting system, as noted above. Adjusting for this, distillate deliveries' January growth amounts to about 4.4 percent—still somewhat more than for indicated consumption.

Weather for the month averaged about 5 percent colder than a year ago, adding an estimated 50 thousand B/D to consumption compared with January 1986. Growth in trucking activity, if it continued at the fourth quarter's 3 percent average rate, would have added roughly 40 thousand B/D more. With little strength in rail traffic or other sectors, this leaves more than one third of January's (adjusted) deliveries increase unexplained by consumption changes. However, distillate deliveries have regularly varied from indicated consumption on a short-term basis in the past year as shifting crude oil price levels on world markets have served to encourage swings in nonprimary inventories, inventories which are not tallied by API or the Department of Energy. Over the longer term, deliveries tend to match consumption more closely. For the past six months, distillate deliveries' growth has averaged about 1.5 percent.

Residual Fuel Oil

FUEL SWITCHING MODERATES. Though residual fuel oil deliveries rose 10.3 percent (148 thousand B/D) in January, this was one of the smaller increases of the past ten months, the result of apparent slackening in fuel switching. Residual fuel oil prices, paralleling crude oil prices, fell in early 1986, reaching about half their December 1985 level by midyear. Because of the cost advantage compared to natural gas, many of those with dual fuel capability, particularly electric utilities, switched to residual fuel oil. Natural gas prices also slipped in the first half of 1986, but by less than prices for residual fuel oil.

From midyear to this January, residual fuel oil prices have risen significantly, particularly in the past two months, while any increase in natural gas prices has been much less. As a result of these price movements, January's residual fuel oil prices relative to natural gas in many markets were about where they were before the 1986 price decline, or even somewhat higher, so that some switching back to natural gas may well have occured.

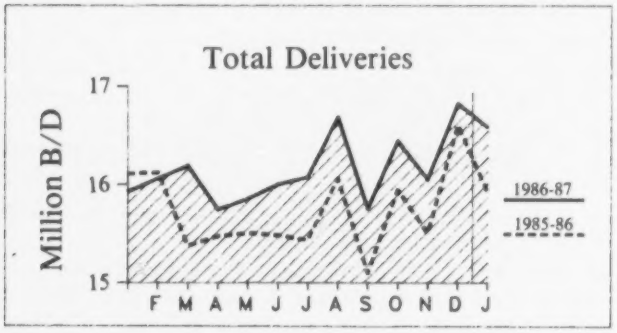
Kerosine Jet Fuel

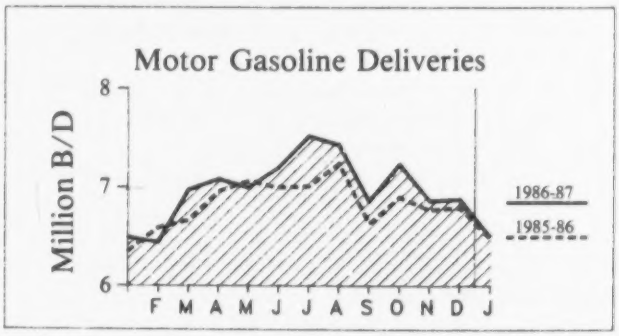
11 PERCENT INCREASE ON TREND. Kerosine jet fuel deliveries rose 11 percent or nearly 120 thousand B/D in January, in line with recent increases in commercial airline traffic. In recent months, growth rates in available seat miles on international flights have begun to recover from last summer's flat performance, though their 7 to 8 percent increases still fall short of growth rates of 12 to 13 percent for domestic flights.

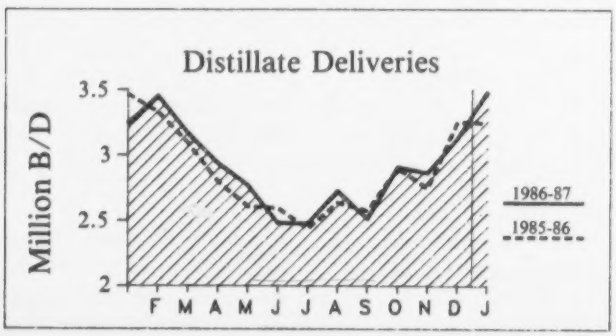
Other Oils

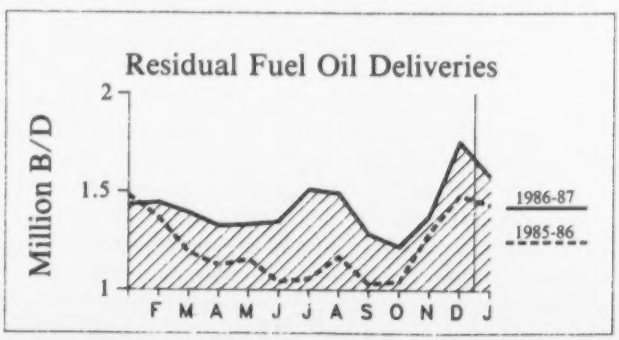
FLAT FOR JANUARY. Deliveries of other oils rose a bare 0.2 percent January, continuing the flat results experienced in 1986. The same relative price patterns of oil versus natural gas that have slowed or reversed switching to residual fuel oil at electric utilities have affected developments for some of these products as well. Higher prices of crude oil relative to natural gas have caused some movement back to lighter petrochemical feedstocks, such as ethane and propane, from heavier gasoil and naphtha feeds.

Meanwhile, delays in passage of a Federal highway bill had more effect on state contruction planning for later in the year than on January asphalt deliveries, since only about 3 percent of annual deliveries normally occur in that month. The bulk of asphalt usage, more than 70 percent, typically occurs during May through October when weather in many parts of the country is more hospitable.









SUPPLY[1/]

Production

DOWN NEARLY 700 MBD DESPITE ALASKAN INCREASE. Lower 48 production declined about 830 thousand B/D year-to-year in January, or over 11 percent. Even with an increase in Alaskan production of nearly 150 thousand B/D, the decline for the U.S. as a whole still amounted to close to 700 thousand B/D, larger even than most of the year-to-year declines of the price-controlled 1970s. Roughly two thirds of the decline for the lower 48 has taken place in the major producing states of Texas, Louisiana, and California, in line with these states' share of production. Year-to-year declines, based on preliminary data, have been running 10 to 14 percent in Texas, about 9 percent in California, but generally only a few percent in Louisiana. For the remaining lower 48 states as a whole, the drop has averaged 12 to 14 percent.

In Alaska, however, where natural field declines expected in the next few years have not yet been a major factor, development projects begun before last year's price slide have helped to maintain or even increase production. Start-up of Lisburne production and the bringing on stream of an additional production facility at Kuparuk late last year helped to boost this January's production for Alaska.

Natural gas liquids production is estimated to have declined 8 percent or nearly 140 thousand B/D compared with January of last year. Reduced extraction rates and lower natural gas production both contributed to the decline.

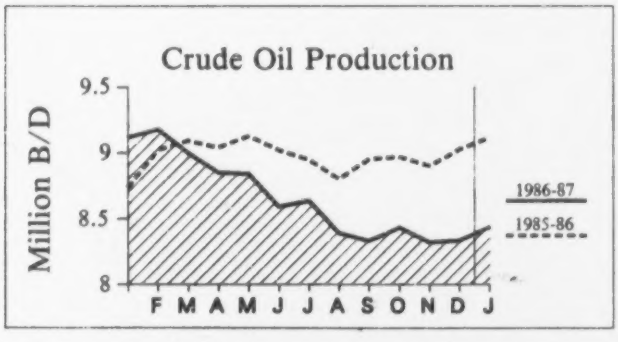
Imports

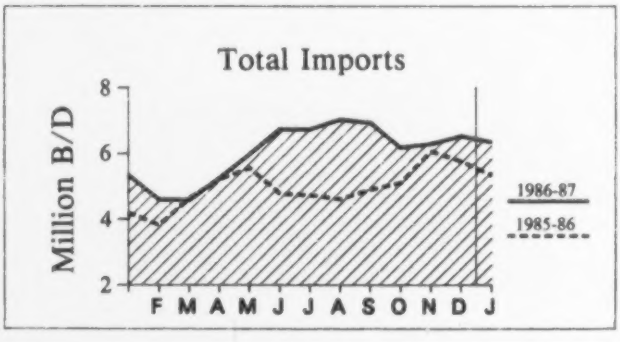
UP 1 MILLION B/D. January's total imports, at over 6.3 million B/D, continued at rates similar to those of the past several months. The entire year-to-year increase of 1.0 million B/D was for crude oil, with product imports steady. However, last January's increase in inventories (about 9 million barrels after adjustment for the Department of Energy's addition of new inventory data) was highly unusual for a month in which stocks have almost always declined. Without the additional imports to build stocks last January, that month's imports would have been lower and the year-to-year increase for January of this year consequently larger.

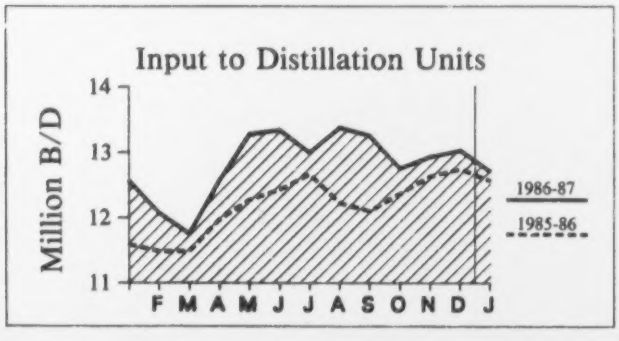
Both gasoline and distillate imports were down somewhat from last January (about 40 thousand B/D for gasoline and blending components, 30 thousand B/D for distillate), but this is mainly a reflection of last year's higher-than-usual imports. Residual fuel oil imports, however, rose over 110 thousand B/D as high demand for this fuel, as with last year, continued to be met largely by increased imports. In 1986, though residual fuel oil deliveries rose over 200 thousand B/D, domestic refinery production was nearly unchanged. Increased imports of over 130 thousand B/D, accompanied by reduced exports of about 60 thousand B/D, were the primary means by which higher demand was met.

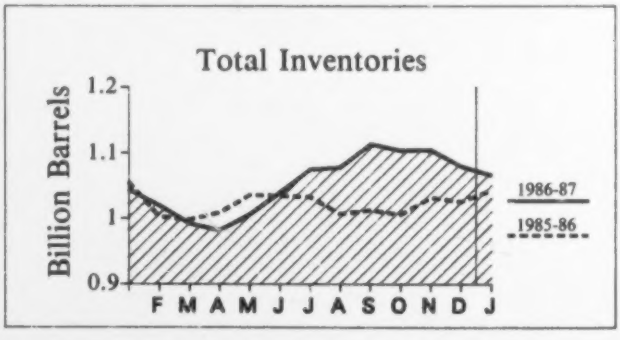
Refinery Operations

REFINERS EMPHASIZE GASOLINE PRODUCTION. Refinery utilization as a percentage of operable capacity continued at the highest rates in seven years, rising 1.4 points in January from a year ago to 81.5 percent. Though down seasonally from last summer's higher rates, this was still the highest for January since 1980. With distillate supplies currently adequate, greater attention was given to gasoline production, which rose 3.4 percent due to higher-than-typical yields for January. Distillate production was off about 1 percent compared to last January's higher-than-normal output but 240 to 280 thousand B/D greater than production in the prior two Januarys.









Inventories

DOWN LESS THAN USUAL FOR JANUARY. Contrasting with the fourth quarter's larger-than-normal stock draw, total stocks declined about 20 million barrels less than usual for January, falling only about 13 million barrels. As a result of higher refinery output and lower growth in January's deliveries, gasoline stocks rose 15 million barrels, compared to an average 4 million for recent prior years. Distillate stocks' decline of 12 million barrels was also only about half the historical average. Crude stocks, however, rose, but only slightly. Despite the less-than-typical inventory draw for the month, closing inventories were only 21 million barrels (2 percent) higher than a year ago.

1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 515 million barrels as of January 31, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	JANUARY			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	6,502	6,487	0.2			
Finished leaded motor gasoline*	1,786	2,083	(14.3)			
Finished unleaded motor gasoline*	4,716	4,404	7.1			
Naphtha-jet	183	203	(9.9)			
Kerosine-jet	1,197	1,078	11.0			
Distillate fuel oil	3,484	3,243	7.4			
Residual fuel oil	1,583	1,435	10.3			
All other oils[4]	3,993	3,984	0.2			
Reclassified[5]	- 359	- 504	(28.8)			
Total domestic products supplied	16,583	15,926	4.1			
Exports	817	853	(4.2)			
Total products supplied	17,400	16,779	3.7			
Supply:						
Domestic production:						
Crude oil[6]	8,437	9,121	(7.5)			
Natural gas liquids	1,584	1,721	(8.0)			
Other supply[7]	614	1,255	(51.1)			
Total domestic supply	10,635	12,097	(12.1)			
Imports:						
Crude oil, total	4,281 10/	3,277 10/	30.6			
Canadian	614	496	23.8			
Other	3,667	2,781	31.9			
Products, total	2,057	2,057	-			
Residual fuel oil	741	629	17.8			
Other	1,316	1,428	(7.8)			
Total imports	6,338	5,334	18.8			
Total supply	16,973	17,431	(2.6)			
Stock change, all oils	- 427	+ 652	XXXX			
Refinery Operations						
Input to crude oil distillation units	12,708	12,564	1.1			
Operable capacity	15,594	15,687	(0.6)			
Refinery utilization (%)[8]	81.5%	80.1%	1.7			
Crude oil runs	12,511	12,375	1.1			

Stocks (millions bbls.)	1987	1986	1986[2]	% Change from ...	
	Jan. 31[9]	Dec. 31[9]	Jan. 31	Previous Month	Year Ago
Crude oil 10/	329.1	326.9r/	331.9	0.7	(0.8)
Unfinished oils	94.9	95.0r/	105.1	(0.1)	(9.7)
Total motor gasoline**	252.1	237.1r/	239.0	6.3	5.5
Finished leaded motor gasoline*	70.5	67.9	81.6	3.8	(13.6)
Finished unleaded motor gasoline*	140.9	130.3r/	119.9	8.1	17.5
Naphtha-jet	7.4	7.0	6.5	5.7	13.8
Kerosine-jet	41.9	42.1	35.1	(0.5)	19.4
Distillate fuel oil	141.0	153.4r/	139.0	(8.1)	1.4
Residual fuel oil	41.9	43.3r/	48.1	(3.2)	(12.9)
All other oils	158.4	175.1r/	141.0	(9.5)	12.3
Total all oils	1,066.7	1,079.9r/	1,045.7	(1.2)	2.0

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source:
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 11, No. 2

MARCH 18, 1987

FEBRUARY 1987

SUMMARY

The combined year-to-year drop in domestic production of crude oil and natural gas liquids exceeded 1 million B/D in February, one of the largest declines ever recorded. Thus, despite indications that the underlying growth rate in demand has moderated so far in 1987 from the accelerated growth of the last half of last year, February's imports still rose 1.4 million B/D or 30 percent, mainly because of substantially lower domestic supplies and somewhat higher demand.

Crude oil production alone fell over 900 thousand B/D from last February, with the nearly 10 percent decline occurring mostly in the lower 48 states. Natural gas liquids production is estimated to have dropped close to 200 thousand B/D over the same period.

With a weather-related decline for distillate deliveries, an only-minimal change for residual fuel oil, and a below-trend increase for kerosine jet fuel, gasoline deliveries' 3.1 percent increase was one of the few major contributors to February's 1.5 percent, 243 thousand B/D increase in total deliveries. Adjusting for February's warmer weather and below-trend kerosine jet fuel deliveries yields an apparent year-to-year increase in consumption of somewhat more than 2 percent, similar to the underlying trend estimated for January but below the 3.4 percent increase of 1986's second half.

The primary reason for the moderation in total deliveries' growth is the ebbing of last year's strong gains for residual fuel oil, which had mainly been the result of fuel switching at electric utilities. Higher residual fuel oil prices in the past few months, coupled with natural gas prices that have largely remained at last year's lower levels, have made fuel substitution with oil less attractive.

Although refinery utilization dropped to below 80 percent of operable capacity for the first time in almost a year, the January-February decline was not unusual and gasoline and distillate production still showed gains over last February. Total inventories declined 17 million barrels for the month, a decrease smaller than in four of the past five years. Distillate stocks fell 16 million barrels but ended the month higher than for the previous two Februarys. Crude oil and gasoline stocks were steady.

PRODUCTS SUPPLIED[1/]

Gasoline

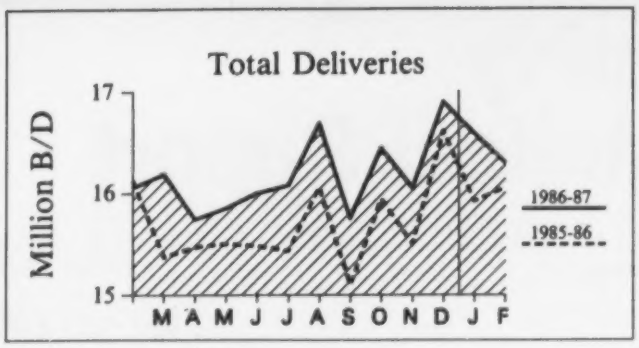
DELIVERIES' GROWTH RECOVERS SOMEWHAT. Gasoline deliveries' growth picked up in February from January's meager showing. The 3.1 percent, 198 thousand B/D rise, however, was still somewhat below the experience of last year's second half, when the increase approached 4 percent. How much of the recent slackening in the growth rate for deliveries represents an actual slowing in consumption increases remains to seen. As noted last month, recent growth in miles travelled—up 6.6 percent for December—even when offset by fuel efficiency improvements, imply gasoline consumption growth somewhat larger than recent deliveries increases.

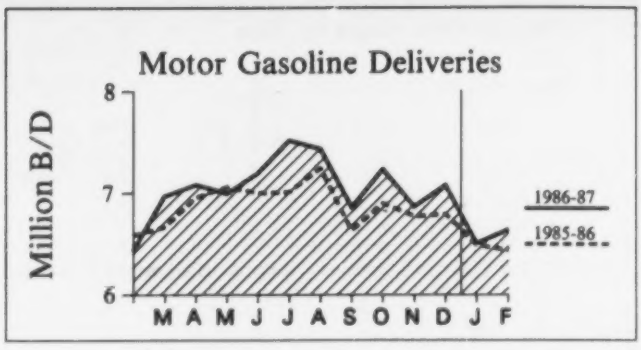
Unleaded's share of gasoline deliveries jumped to nearly 75 percent in February, up over 7 points from a year ago. Further regional introductions and market tests by some companies of mid-grade unleaded have been helping to expand unleaded's share. After this year, refiners will no longer be able to use lead rights "banked" earlier under the Environmental Protection Agency's lead phasedown program; more than half of the bank had already been used up by the end of last year's third quarter. Since unleaded regular runs about two octane numbers below leaded regular, a mid-grade product is one way to meet the octane requirements of older vehicles designed to run on regular leaded fuel.

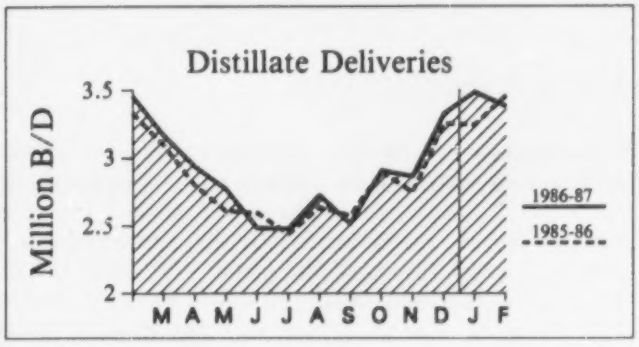
Distillates

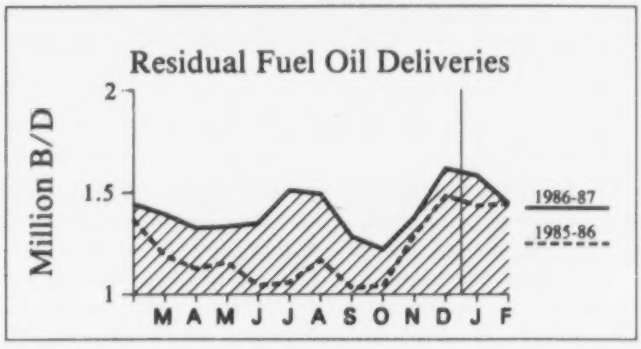
WARMER WEATHER BRINGS DECLINE. Weather about 5 percent warmer than last year and nearly 10 percent warmer than normal accounts for all of distillate fuel oil's 2.1 percent, 74 thousand B/D decline for February. Other sectors likely showed little growth. Year-to-year changes in truck tonnage, for example, have been erratic in recent months, running anywhere from 4 percent down to 5 percent up; if there is a trend, it is probably one of only moderate growth at best. Growth in rail traffic, too, has been weak.

Distillate use at electric utilities has also been flat, responding little to the past year's lower oil prices—in contrast with last year's substantial gains for residual fuel oil. While utilities' consumption of residual fuel oil in 1986 increased by more than one third (and purchases lept by roughly one half), distillate consumption was virtually unchanged. Most distillate at electric utilities is used in peaking units and petroleum use there was little affected by oil's price decline.









Residual Fuel Oil

FLAT DELIVERIES CONTRAST WITH LAST YEAR. Residual fuel oil deliveries in February were essentially unchanged from a year ago—in sharp contrast to increases of up to 43 percent experienced in the middle of last year, when residual fuel oil prices had fallen significantly compared with natural gas prices. On a seasonally adjusted basis, residual fuel oil deliveries have been trending downwards for the past six to eight months, and this February's level was not much higher than those before the 1986 oil price decline.

Residual fuel oil's shrinking gains of the past several months are the result of movements in oil and gas prices that have greatly reduced the incentive for electric utilities and others to burn residual fuel oil in place of other fuels. Specifically, despite a moderate decline during February after several months of increases, residual fuel oil prices were at levels similar to a year ago, while prices for spot natural gas were down 20 to 25 percent. For December, the latest month for which data are available, residual fuel oil burned at utilities had risen only 40 thousand B/D—one tenth of last July's increase. Thus for February, even though electricity generation rose about 2 percent year-to-year, residual fuel oil consumption by utilities probably held steady or may have even declined.

This, combined with little change for bunkering, industrial, and other uses over the past year, leads to the conclusion that all sectors of residual fuel oil deliveries contributed to February's flat performance.

Kerosine Jet Fuel

BELOW-TREND RISE FOR FEBRUARY. Experiencing one of the smallest year-to-year increases in nearly a year, kerosine jet fuel deliveries increased by only 4.3 percent or 47 thousand B/D in February. Increases in available seat miles, however, have continued in the 9 to 12 percent range and growth rates for revenue passenger miles, though fluctuating more than seat miles, have been at least 11 percent and as high as 17 percent during the past six months. Thus it appears that February's smaller deliveries increase does not signify any major change in the longer-term trend; annual deliveries last year grew nearly 10 percent over the prior year's level.

Other Oils

UP 1.7 PERCENT. Deliveries of other oils rose 1.7 percent (63 thousand B/D) in February, in line with the pattern of minimal growth of the recent past. If higher oil prices in recent months have indeed brought about a partial reversal of the shift towards heavier petrochemical feedstocks, it was not evident in the Department of Energy's December data. Gasoil and naphtha deliveries rose 55 thousand B/D year-to-year in that month, while ethane deliveries fell 138 thousand B/D.

For the year, ethane deliveries declined nearly 60 thousand B/D (10 percent) while heavier feedstocks experienced a 66 thousand B/D, 18 percent gain. For other products, deliveries of propane fell nearly 50 thousand B/D while asphalt deliveries increased 23 thousand B/D. Because of increased refinery utilization, refinery gas production and use rose nearly 30 thousand B/D.

SUPPLY[1/]

Production

CRUDE AND NGLs FALL OVER 1 MMBD. February's drop in domestic crude oil production of over 900 thousand B/D and the nearly 200 thousand B/D decline for natural gas liquids combined to reduce domestic supplies by over 1 million B/D compared with last February, one of the largest year-to-year

declines ever recorded. Alaskan production continued at levels similar to the recent past, but lower 48 production was almost a third below 1970's peak and at its lowest level since the early 1950s.

Though its rate of decline has moderated in the past several months, lower 48 production has continued downward. Production in last year's second quarter fell close to 5 percent from the first quarter—or at an annual rate of nearly 18 percent—and third quarter production fell another 4 percent. Fourth quarter 1986 and the first two months of this year show declines of about 1.6 percent from the prior quarters, or annual rates of decrease of over 6 percent. These declines contrast with essentially stable production in the lower 48 in the previous five years.

API's fourth quarter *Quarterly Completion Report* now puts the estimated decline in wells drilled last year at over 29,000—a 41 percent drop, and the largest decline in the number of wells drilled ever. Reflecting the greater relative price decline for oil versus gas, estimated oil completions fell by 46 percent while gas completions declined by a lesser but still very substantial 34 percent. Rig activity so far this year has shown no improvement over that of the latter part of 1986, and in fact has slipped somewhat since the beginning of the year.

Imports

UP 1.4 MMBD DUE TO TRENDS IN DEMAND AND PRODUCTION.

Total imports declined slightly from the levels of prior months but still exceeded those of last February by 1.4 million B/D or 30 percent. Though last February's imports were somewhat below trend, most of this year's increase is the result of the enlarged gap between domestic supplies and demand brought about by last year's oil price collapse. The greater than 1 million B/D decline in domestic crude oil and natural gas liquids production, even combined with the relatively small increase in February's deliveries, amounts to 1.3 million B/D—nearly all of the month's increase in imports.

Product imports rose nearly half a million B/D this February over the same month last year, but the increase was essentially the result of last February's below-trend level rather than an unusual surge this year. Imports of gasoline and components, however, at 293 thousand B/D, were off 100 thousand B/D; distillate imports rose 132 thousand B/D. Despite the marginal performance of residual fuel oil deliveries, imports rose in February, though by less than 60 thousand B/D.

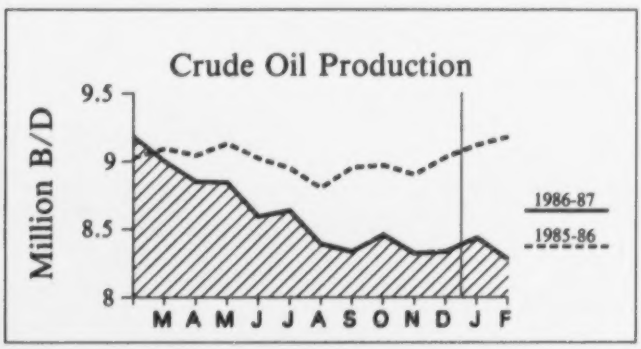
With data for the full year now available on imports by source, several interesting observations emerge. Almost 85 percent of the increase in crude oil imports in 1986 came from OPEC countries, reflecting that group's status as incremental supplier to world markets, while product import patterns also underwent shifts. Products from OPEC countries rose about 170 thousand B/D, but product imports from non-OPEC sources declined by nearly 90 thousand B/D, the second annual decline in a row. As a result of these developments, OPEC's share of U.S. crude and product imports jumped 10 percentage points to nearly 46 percent, the highest in five years.

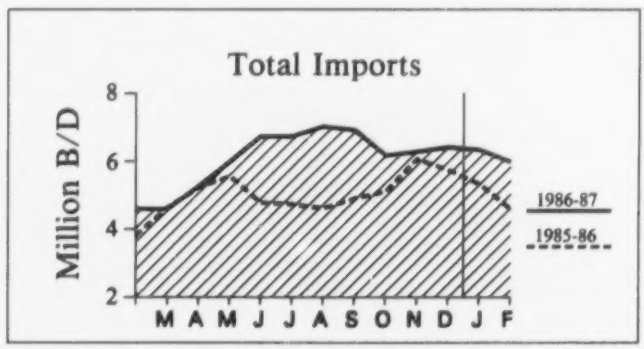
Though the bulk of Persian Gulf exports continued to go to other destinations, U.S. imports from this region nearly tripled to 900 thousand B/D in 1986. Perhaps more important is the fact that exports from the Persian Gulf now account for about a third of world oil trade, so that major developments there can potentially affect U.S. oil supplies not only directly but indirectly as well.

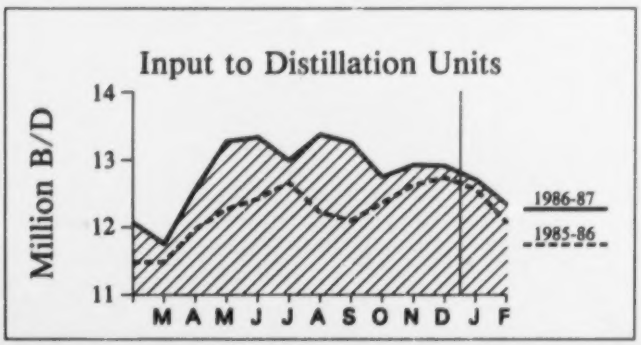
Refinery Operations

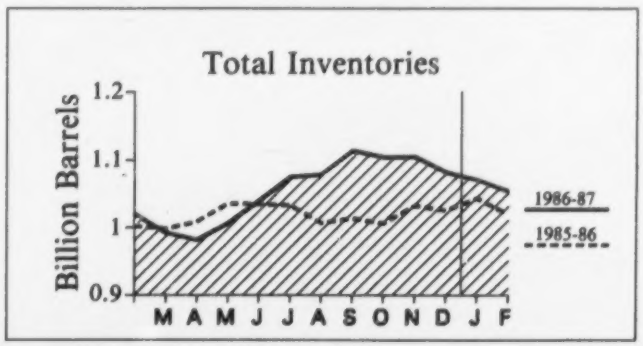
RUNS RISE OVER LAST YEAR.

Refinery utilization inched downwards as the month progressed, as some refiners









began normal seasonal maintenance and refinery turnarounds. However, though February's average refinery utilization dropped below 80 percent for the first time in nearly a year, the January-February utilization decline was not unusual compared with recent years. In fact, for the month, input to distillation units was still 2.2 percent ahead of last February.

Gasoline production rose 1.4 percent and, largely because last February's distillate production had been the lowest of the heating season, this February's production was 2.2 percent higher by comparison. Residual fuel oil output declined 2 percent in response to stagnant demand.

Inventories

STOCKS AGAIN FALL LESS THAN NORMAL. February's 17 million barrel decline in total inventories was smaller than four out of five of the previous February declines and followed January's less-than-average decrease. In terms of days of supply, however, February's stocks were towards the low end of the range of days of supply experienced in the 1980s. In that period, the ratio of total February stocks to deliveries has run from a low of 62 days in 1985 to a high of 76 in 1983. This February's 65 days, then, is not unusually high by comparison.

Distillate stocks ended the month higher than for the previous two Februarys after falling 16 million barrels. Both crude oil and gasoline inventories remained near January's month-end levels, with gasoline stocks about 8 million barrels higher than for last February.

1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 517 million barrels as of February 28, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	FEBRUARY			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	6,636	6,438	3.1	6,567	6,464	1.6
Finished leaded motor gasoline*	1,679	2,096	(19.9)	1,735	2,090	(17.0)
Finished unleaded motor gasoline*	4,957	4,342	14.2	4,832	4,374	10.5
Naphtha-jet	208	183	13.7	195	193	1.0
Kerosine-jet	1,141	1,094	4.3	1,170	1,086	7.7
Distillate fuel oil	3,381	3,455	(2.1)	3,435	3,343	2.8
Residual fuel oil	1,447	1,443	0.3	1,518	1,439	5.5
All other oils[4]	3,823	3,760	1.7	3,913	3,877	0.9
Reclassified[5]	- 337	- 317	6.3	- 349	- 415	(15.9)
Total domestic products supplied	16,299	16,056	1.5	16,449	15,987	2.9
Exports	815	866	(5.9)	816	859	(5.0)
Total products supplied	17,114	16,922	1.1	17,265	16,846	2.5
Supply:						
Domestic production:						
Crude oil[6]	8,277	9,181	(9.8)	8,361	9,149	(8.6)
Natural gas liquids	1,522	1,710	(11.0)	1,555	1,716	(9.4)
Other supply[7]	720	585	23.1	663	937	(29.2)
Total domestic supply	10,519	11,476	(8.3)	10,579	11,802	(10.4)
Imports:						
Crude oil, total	3,896[10/]	2,981[10/]	30.7	4,098[10/]	3,137[10/]	30.6
Canadian	602	481	25.2	608	489	24.3
Other	3,294	2,500	31.8	3,490	2,648	31.8
Products, total	2,093	1,617	29.4	2,074	1,848	12.2
Residual fuel oil	634	577	9.9	690	605	14.0
Other	1,459	1,040	40.3	1,384	1,243	11.3
Total imports	5,989	4,598	30.3	6,172	4,985	23.8
Total supply	16,508	16,074	2.7	16,751	16,787	(0.2)
Stock change, all oils	- 606	- 848	XXXX	- 514	- 59	XXXX
Refinery Operations						
Input to crude oil distillation units	12,342	12,072	2.2	12,534	12,331	1.6
Operable capacity	15,594	15,434	1.0	15,594	15,567	0.2
Refinery utilization (%)[8]	79.1%	78.2%	1.2	80.4%	79.2%	1.5
Crude oil runs	12,151	11,921	1.9	12,340	12,159	1.5

Stocks (millions bbls.)	1987		1986[2]	% Change from ...	
	Feb. 28[9]	Jan. 31[9]	Feb. 28	Previous Month	Year Ago
Crude oil 10/	329.4	329.0r/	331.9	0.1	(0.8)
Unfinished oils	101.5	94.9	104.1	7.0	(2.5)
Total motor gasoline**	252.6	252.0r/	244.8	0.2	3.2
Finished leaded motor gasoline*	70.0	70.5	79.5	(0.7)	(11.9)
Finished unleaded motor gasoline*	139.5	140.9	127.1	(1.0)	9.8
Naphtha-jet	6.8	7.4	6.3	(8.1)	7.9
Kerosine-jet	41.1	41.9	37.8	(1.9)	8.7
Distillate fuel oil	125.2	141.0	112.8	(11.2)	11.0
Residual fuel oil	37.5	41.9	42.7	(10.5)	(12.2)
All other oils	159.8	162.8r/	141.6	(1.8)	12.9
Total all oils	1,053.9	1,070.9r/	1,022.0	(1.6)	3.1

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: API
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
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9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
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* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

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APRIL 15, 1987

MARCH 1987

SUMMARY

In March, for the first time in more than a year, total deliveries declined. After accounting for residual fuel oil's losses to substitute fuels and unusually strong deliveries last March, underlying trends for remaining products indicate continued growth for light products at somewhere near 2 percent.

Deliveries data in the early part of last year were distorted by the market upheaval related to falling oil prices. Last March's gasoline deliveries, in particular, were roughly 300 thousand B/D above the prevailing trend, thus transforming what would have been a roughly 3 percent rise for gasoline deliveries this March into a small decline year to year. March's year-to-year change in distillate and kerosine jet fuel deliveries, as well, fell below what other consumption indicators would suggest.

Residual fuel oil's losses, however, reflect actual consumption declines. Electric utilities, responding to shifting price differentials between oil and natural gas, have curtailed the use of residual fuel oil, leading to an almost 14 percent drop in deliveries for March. This contrasts with an average increase of over 16 percent for 1986.

Domestic crude oil production, though up from February mainly due to higher Alaskan production, was still about 750 thousand B/D below the February 1986, recent-year peak. Lower 48 production has fallen almost 850 thousand B/D since that time, with the annualized rate of decline from the prior quarter running at about 6 percent for the first three months of 1987.

OPEC's production cutback continues to be reflected in U.S. imports, which decreased from prior months to about 5.4 million B/D. However, imports for the first quarter were still nearly 1 million B/D ahead of last year's first quarter and about equal to the increase in the gap between domestic supplies and total deliveries. Refinery turnarounds held utilization at about 78 percent, still higher by almost 2 percentage points compared with last March, with the seasonal shift in emphasis towards gasoline production clearly evident. Stocks fell only 9 million barrels, less than a third of the average of recent years.

PRODUCTS SUPPLIED[1/]

Gasoline

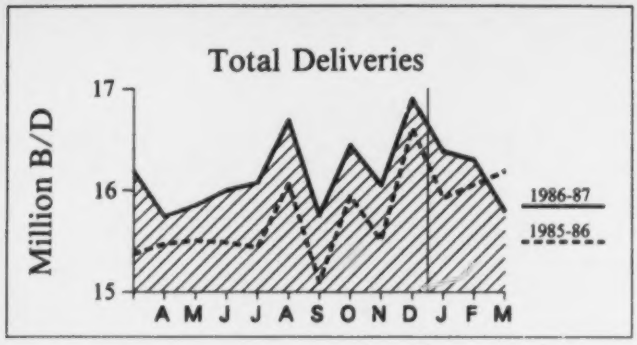
DISTORTIONS LAST YEAR MASK GROWTH. Motor gasoline deliveries' March decline of 1.6 percent year-to-year is more indicative of the disturbances affecting last year's deliveries data than of the trend in gasoline consumption this year. Had last March's deliveries followed the prevailing trend, deliveries this March would have risen by almost 3 percent year to year. On this basis, first quarter deliveries would have grown about 2 percent rather than the slim 0.3 percent calculated from the data, and would have about matched the apparent growth in gasoline consumption.

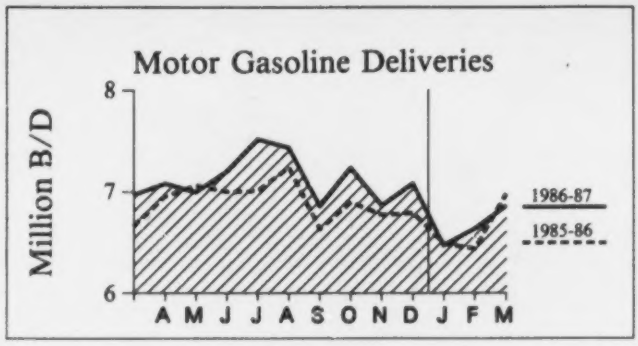
Unleaded's share of deliveries jumped almost 8 percentage points in March, similar to February's year-to-year increase. Though unleaded fuels as a whole have made strong gains against leaded gasoline in the past half-year, most of the increase has been for premium grades. Unleaded regular's share (including mid-grade) has remained at about the same level for much of the period. These patterns are the result of several market factors at work simultaneously. Continued retirement of older vehicles designed for leaded fuel, as well as regional introductions of mid-grade unleaded—often in place of leaded regular—have upped unleaded's share. But despite unleaded's growing portion, motorists' upgrading to higher octane fuels has kept the share of non-premium unleaded gasoline from growing significantly.

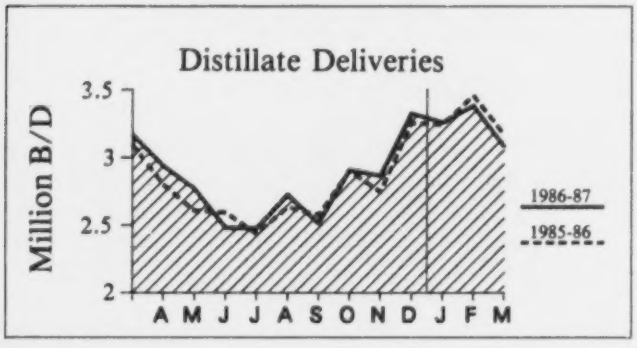
Retail gasoline prices rose again in March; increases since October have amounted to about 10 cents per gallon, mainly reflecting higher crude oil costs. However, March's average prices were still 20 percent lower than before the 1986 price decline and, on an inflation-adjusted basis, only slightly more than half the March 1981 peak.

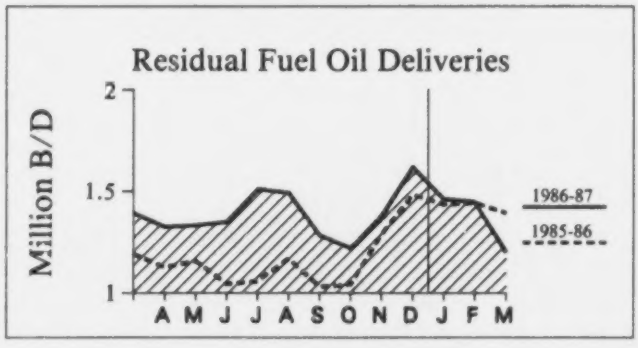
API ESTIMATES

	MARCH		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	15.8	(2.4)	16.2	0.6
Crude production[2/]	8.4	(6.3)	8.4	(7.7)
Total imports[3/]	5.4	17.8	5.8	20.2
Stocks (million bbl)[3/]	1,049	5.5	na	na









Distillates

MARCH DELIVERIES DOWN 2.7 PERCENT. Though warmer weather in major heating-oil-consuming regions and little if any growth in transportation use indicate small declines for distillate consumption for both March and the quarter as a whole, actual decreases in deliveries have been somewhat larger. March deliveries fell about 85 thousand B/D (2.7 percent) and the quarter's deliveries, about 50 MBD (this quarterly figure corrects for the Department of Energy's understated deliveries data for January 1986).

Nationally, March was about 4 percent colder than last year, but because temperatures in the Mid-Atlantic and Great Lakes regions were warmer on average than a year ago, the month's weather accounts for about 30 of the 85 thousand B/D year-to-year decline. Warmer weather for the quarter as a whole accounts for a similar portion of the first quarter's decline. Though truck tonnage data have been erratic in recent months, the trend appears to be slightly upwards; rail traffic has shown little year-to-year change. Thus the indicated increase in transporation diesel use would likely not have been enough to counteract the weather's negative effect on consumption.

Though we believe deliveries declines so far this year probably overstate the slight consumption decreases of the first quarter, over longer periods distillate growth has been positive but weak. Over the past six months, distillate deliveries have increased a mere 0.5 percent after adjusting for weather and understated data for January 1986.

Residual Fuel Oil

FIRST MAJOR DECLINE SINCE MID-1985. Residual fuel oil's 190 thousand B/D, nearly 14 percent decline for March was the first of that size since mid-1985, as fuel switching away from residual fuel oil reduced deliveries to electric utilities and others with dual fuel capability. March's decline left residual fuel oil deliveries at about the same level as for March 1985.

Last year, residual fuel oil deliveries increased considerably as East Coast utilities took advantage of lower residual fuel oil prices. Last year's deliveries rose over 16 percent, with a greater-than-30 percent jump for the third quarter alone. However, residual fuel oil prices have strengthened along with crude oil prices during the past six months, while natural gas prices have remained at lower levels, making residual fuel oil an unattractive choice in many cases.

Bunkering use continues to be relatively flat, reflecting the only slight growth in total foreign trade tonnage over the past year. Industrial and other uses, which may have experienced moderate increases in the latter part of last year, have probably been flat or even down slightly, the result of fuel switching away from residual fuel oil and only moderate growth in the industrial sector of the economy.

Kerosine Jet Fuel

DELIVERIES LAG BEHIND JET TRAFFIC. A 6.3 percent rise for March kerosine jet fuel deliveries brought the first quarter's increase to a similar rate. Data on air traffic growth, however, continue to exceed these rates. First quarter growth in domestic available seat miles was likely in the 10 to 12 percent range; international seat miles, after experiencing small declines at times last year, likely rose 8 to 9 percent. These developments indicate there may be some caution in acquiring and holding jet fuel in inventory in view of recent higher prices and continued price uncertainty. Another factor may be jet fuel imported by airline co-ops into bonded storage and not included in petroleum imports data, though the extent to which this may reduce calculated deliveries is uncertain.

Other Oils

SMALL INCREASE FOR MARCH. Deliveries of other oils rose 0.7 percent for March, consistent with recent gains. Higher prices for petroleum-based gasoil and naphtha have damped demand for those feedstocks in preference for lighter feedstocks derived from natural gas. Strengthening in ethane, and to some extent, propane deliveries should likely have been the result. Overall demand for major petrochemicals, though perhaps moderating from last year's level, remains strong.

As for other products, deliveries of propane and butanes have been growing in recent months; lubricants have largely continued their downward trend of the past several years, while coke deliveries have recently turned upward.

SUPPLY [1/]

Production

OFFSHORE DECLINES, BUT BY LESS THAN FOR ONSHORE FIELDS. Lower 48 production continued at lower levels in March, falling almost 850 thousand B/D from the February 1986, recent-year peak. For the quarter, lower 48 production fell at an annual rate of about 6 percent from the prior quarter. Increased production from projects completed in the last several months in Alaska helped to boost production there, but total U.S. production in March was still nearly 750 thousand B/D, or 8 percent, below its level of 13 months previously. Combining the drop in crude oil production with the nearly 240 thousand B/D decline in natural gas liquids over the same interval brings the total decline in petroleum liquids production to roughly 1 million B/D in a little more than a year.

Offshore production has declined, as well, over that period, but by a lesser degree than for onshore fields. Offshore production, at roughly 1.2 million B/D or one seventh of U. S. crude oil output, has slipped by at least 5 percent since February 1986, while onshore lower-48 production has fallen on the order of 13 percent. All major offshore regions have shared in the decline.

However, because of the long lead times involved, current offshore production largely represents the results of exploration and development expenditures already incurred before last year's oil price decline. Current offshore rig activity has declined as dramatically as onshore activity, and is now running at less than half the level of late 1985.

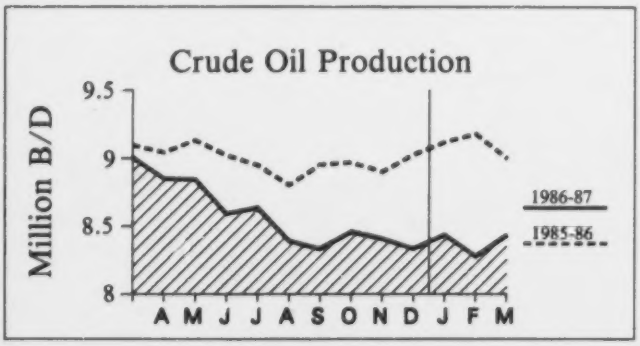
Imports

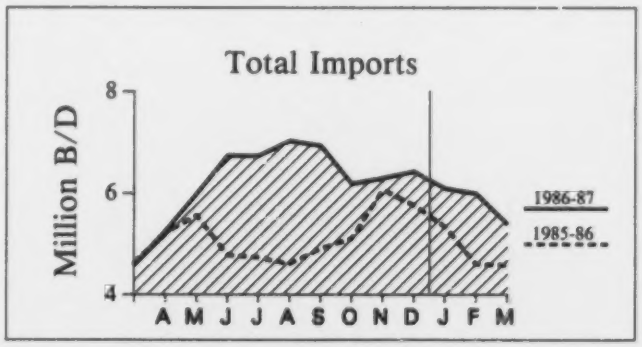
UP NEARLY 1 MMBD IN FIRST QUARTER. Recent OPEC production cutbacks continued to show up in U.S. import levels in March. Total imports, which had been as high as 6.4 million B/D as recently as December, decreased to 5.4 million B/D in March. Nevertheless, the first quarter's imports were still up nearly 1 million B/D from a year ago, approximately equal to the increase in the gap between domestic supplies and deliveries.

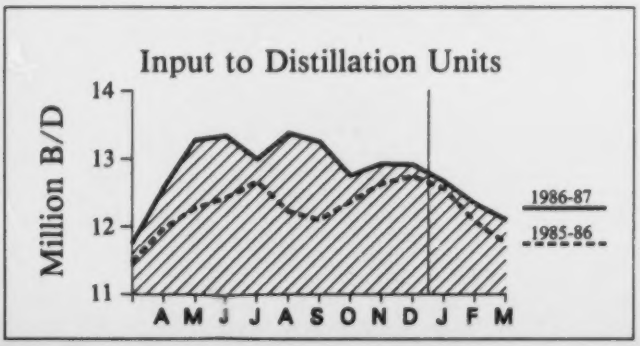
Roughly one fourth of March's 815 thousand B/D imports increase was in products, which rose about 225 thousand B/D. Finished gasoline and blending components rose 116 thousand B/D from last March's unusually low levels, to 357 thousand B/D. Both distillate and residual fuel oil imports changed only slightly year to year in March.

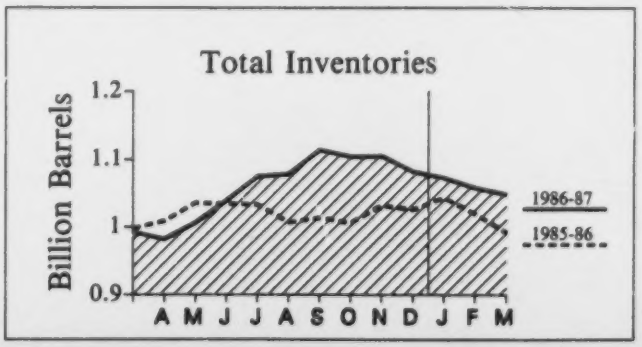
Refinery Operations

EMPHASIS SHIFTS TO GASOLINE. Refinery turnarounds in March helped to hold utilization of distillation capacity at 78 percent—lower than the 80s of recent previous months but still almost two percentage points ahead of last March. With the springtime turnarounds came a strong shift to higher gasoline yields, which jumped 1.5 percentage points from February to









53.3 percent on input to distillation units, a higher-than-typical yield for March. Distillate yields, in the face of flat demand and near-end-of-season inventories higher than for March of the previous two years, declined by a similar number of points.

Last year's seasonal shift to higher gasoline and lower distillate yields was more gradual than this year's. As a result, this March's gasoline production rose over 6 percent year to year, while distillate production fell more than 10 percent measured against output for last March.

Inventories

FIRST QUARTER DROP LESS THAN AVERAGE. Total stocks fell 9 million barrels, less than a third of the average of the previous five years. In fact, for the first quarter as a whole, stocks have fallen only about 33 million barrels versus an average of roughly 75 million, leaving month-end stocks for March a little more than 5 percent higher than last year.

Crude stocks rose 6 million barrels for the month to 335 million barrels, in the middle of the range for crude oil stocks during the past twelve months. Gasoline stocks declined about 5 million barrels in March, and distillate stocks, about 18 million barrels. Neither decline was unusual for March, a month when the heating season is winding down and refinery runs typically diminish as refiners perform the necessary work to gear up for the peak gasoline production season ahead.

1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 520 million barrels as of March 31, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	MARCH			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	6,859	6,970	(1.6)	6,657	6,638	0.3
Finished leaded motor gasoline*	1,710	2,264	(24.5)	1,695	2,150	(21.2)
Finished unleaded motor gasoline*	5,149	4,706	9.4	4,962	4,488	10.6
Naphtha-jet	185	191	(3.1)	186	193	(3.6)
Kerosine-jet	1,075	1,011	6.3	1,121	1,060	5.8
Distillate fuel oil	3,082	3,168	(2.7)	3,237	3,283	(1.4)
Residual fuel oil	1,203	1,393	(13.6)	1,368	1,423	(3.9)
All other oils[4]	3,659	3,632	0.7	3,867	3,793	2.0
Reclassified[5]	- 267	- 176	51.7	- 279	- 333	(16.2)
Total domestic products supplied	15,796	16,189	(2.4)	16,157	16,057	0.6
Exports	825	710	16.2	823	808	1.9
Total products supplied	16,621	16,899	(1.6)	16,980	16,865	0.7
Supply:						
Domestic production:						
Crude oil[6]	8,433	9,002	(6.3)	8,400	9,099	(7.7)
Natural gas liquids	1,473	1,617	(8.9)	1,529	1,682	(9.1)
Other supply[7]	1,027	813	26.3	835	894	(6.6)
Total domestic supply	10,933	11,432	(4.4)	10,764	11,675	(7.8)
Imports:						
Crude oil, total	3,533[10/]	2,941[10/]	20.1	3,910[10/]	3,069[10/]	27.4
Canadian	536	512	4.7	568	497	14.3
Other	2,997	2,429	23.4	3,342	2,572	29.9
Products, total	1,860	1,637	13.6	1,912	1,776	7.7
Residual fuel oil	565	571	(1.1)	622	593	4.9
Other	1,295	1,066	21.5	1,290	1,183	9.0
Total imports	5,393	4,578	17.8	5,822	4,845	20.2
Total supply	16,326	16,010	2.0	16,586	16,520	0.4
Stock change, all oils	- 295	- 889	XXXX	- 394	- 345	XXXX
Refinery Operations						
Input to crude oil distillation units	12,100	11,753	3.0	12,371	12,132	2.0
Operable capacity	15,594	15,481	0.7	15,609	15,537	0.5
Refinery utilization (%)[8]	77.6%	75.9%	2.2	79.3%	78.1%	1.5
Crude oil runs	12,012	11,648	3.1	12,247	11,983	2.2

Stocks (millions bbls.)	1987		1986[2]	% Change from ...	
	Mar. 31[9]	Feb. 28[9]	Mar. 31	Previous Month	Year Ago
Crude oil 10/	335.3	329.4	340.9	1.8	(1.6)
Unfinished oils	106.6	101.5	102.9	5.0	3.6
Total motor gasoline**	247.3	252.5r/	219.9	(2.1)	12.5
Finished leaded motor gasoline*	65.1	70.0	71.0	(7.0)	(8.3)
Finished unleaded motor gasoline*	139.3	139.3r/	114.0	-	22.2
Naphtha-jet	7.2	6.8	5.8	5.9	24.1
Kerosine-jet	41.7	41.1	41.6	1.5	0.2
Distillate fuel oil	106.8	125.1r/	99.3	(14.6)	7.6
Residual fuel oil	38.2	37.5	38.8	1.9	(1.5)
All other oils	165.6	164.0r/	145.2	1.0	14.0
Total all oils	1,048.7	1,057.9r/	994.4	(0.9)	5.5

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January, U.S. Department of Energy, February-March, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 11, No. 4

MAY 13, 1987

APRIL 1987

SUMMARY

In some respects, April's surprising data, with sluggish deliveries for most major products and only a small increase in imports despite falling domestic production, seems oddly appropriate for a month traditionally commemorated with pranks, surprises, and misleading behavior.

April's marginal increase in gasoline deliveries, for example, is in seeming disagreement with continued healthy growth in vehicle travel, while distillate deliveries' decline of nearly 5 percent does not parallel indicators which suggest flat or slightly increasing consumption. With higher deliveries for kerosine jet fuel and other oils, however, the rise for total products excluding residual fuel oil came close to 2 percent. Residual fuel oil's decline, a reversal of last year's substitution-related rise, reduced total deliveries' increase to 1.2 percent, or less than 200 thousand B/D.

One possible explanation for April's perplexing deliveries data lies in the fact that prices have been stronger recently compared with the latter half of last year and may have caused some distributors and end-users to postpone purchases until some of the uncertainty surrounding OPEC's ability to continue to restrain production is resolved. By contrast, March's apparent weakness, with a year-to-year decline in total deliveries, had been partly due to unusually high deliveries in the year-ago period. The year-to-year declines in residual fuel oil deliveries for both months, however, are consistent with reduced demand due to fuel switching.

Domestic crude oil production, despite gains for Alaska, in April stood at almost 770 thousand B/D below the recent-year peak of February 1986. Declines in natural gas liquids production, as well, contributed roughly another 160 thousand B/D to the drop in domestic supplies during that period. Because of declining domestic production and underlying growth in demand, April's imports—up less than 250 thousand B/D from last year—do not reflect the increase in the domestic supply/demand gap estimated at 700 to 800 thousand B/D since last April and over 1 million B/D compared to two years ago.

Refinery operations rebounded from March's seasonally lower activity with utilization coming close to last April's increased rate. Despite an inventory drawdown of about 10 million barrels, total stocks ended the month at the highest April level since 1984. Gasoline stocks were 30 to 35 million barrels higher than for the prior two Aprils.

PRODUCTS SUPPLIED[1/]

Gasoline

DELIVERIES UP LESS THAN SUGGESTED BY MILES TRAVELLED.

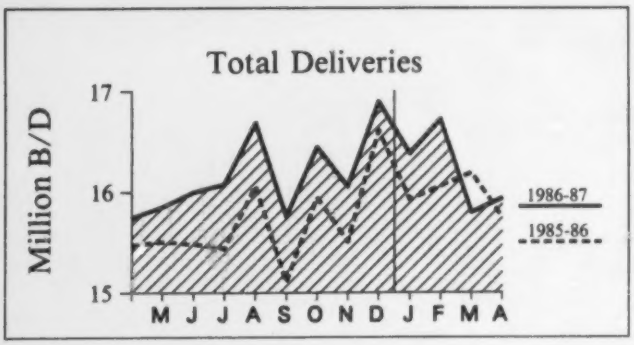
Gasoline deliveries' increase of only 37 thousand B/D or 0.5 percent for April is surprising in view of recent gains in vehicle miles travelled. Though in March, deliveries had actually declined year-to-year, that month's decrease, in fact, translated into a roughly 3 percent rise once adjusted for unusually high deliveries in March 1986. This April's marginal increase, however, is due to weak performance this year—gasoline deliveries for the month were more than 100 thousand B/D below the seasonally-adjusted, 2 percent growth trend of the previous 12 months.

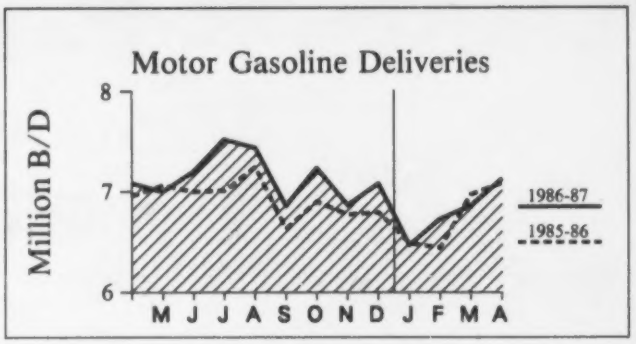
Continued growth in gasoline consumption is consistent with the most recent data on increases in miles travelled (for February) of over 6 percent—similar to the 5 to 6 percent increases of the latter half of last year when gasoline deliveries in April were rising at a 4 percent rate year-to-year. In view of this and the below-trend deliveries in April for other major products as well, it appears more likely that holders of nonprimary inventories postponed purchases due to uncertainty about prices rather than that consumption actually weakened.

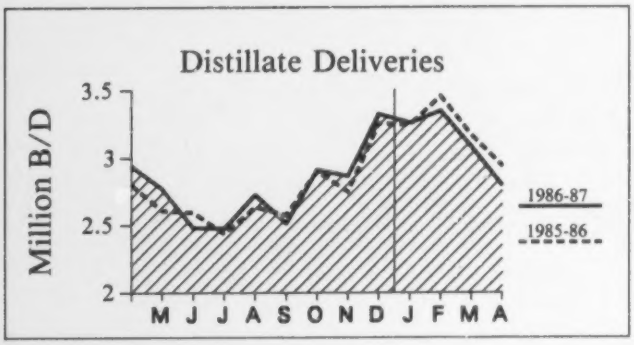
Though recent retail price increases may have tempered demand slightly compared with recent months, prices were still not a negative influence overall for demand when compared with last April. After adjusting for inflation, this April's retail prices were at about the same level as a year ago and still roughly one fourth lower than in April 1985. Long run adjustments by consumers to these lower levels, we believe, is still continuing.

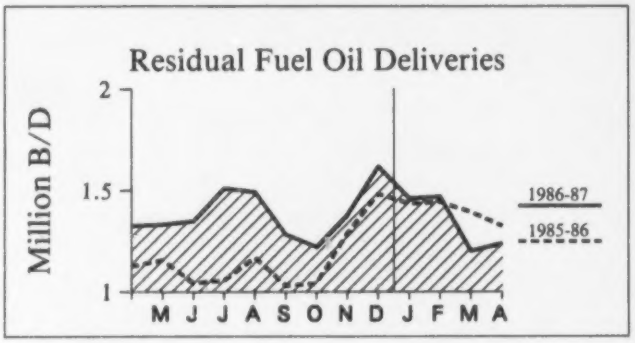
Unleaded's share rose nearly 7 percentage points in April to almost 75 percent of gasoline deliveries, similar to the larger increases of the last several months as mid-grade unleaded has entered more markets.

API ESTIMATES	APRIL		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	15.9	1.2	16.2	1.5
Crude oil production[2/]	8.4	(4.9)	8.4	(6.9)
Total imports[3/]	5.5	4.7	5.7	15.1
Stocks (million bbl)[3/]	1,030	4.6	na	na









Distillate

CONSUMPTION EVEN OR HIGHER BUT DELIVERIES DECLINE. April distillate deliveries fell 141 thousand B/D or 4.8 percent, continuing the string of year-to-year declines of the past several months. Truck traffic, however, was up about 2 percent in the first quarter, while rail traffic has shown no major declines. Industrial activity has gained slightly year-to-year, as have indicators of off-highway use. A decline in farm acreage under cultivation this year likely has had only a minor impact on total distillate deliveries so far, as has weather cooler than last April's. Thus, since other information leads one to expect distillate consumption to have about matched last April's deliveries, April's decline, as with gasoline deliveries, more likely indicates shifts in nonprimary inventories rather than a consumption decline.

Residual Fuel Oil

REVERSAL OF LAST YEAR'S SWITCHING LOWERS DELIVERIES. Fuel switching, largely at electric utilities, was one of the main contributors to residual fuel oil's April decline of close to 7 percent. Since April is typically one of the lowest months for petroleum use at electric utilities, falling outside the peak winter and summer periods for electricity demand, fuel substitution opportunities are typically less than at other times of the year. Thus, the impact of residual fuel oil's declining price competitiveness with natural gas was less than it would have been during higher-demand periods and may explain why April's deliveries decline was only half that of March. In fact, residual fuel oil prices edged upwards in April, further reducing any price advantage of oil over gas for those able to switch easily.

Part of April's residual fuel oil deliveries decline may also have been in bunker fuel, deliveries of which have been weakening during the past several months.

Kerosine Jet Fuel

DELIVERIES RISE 5.3 PERCENT. Kerosine jet fuel deliveries are beginning to fall back into line with air traffic growth. With the inclusion of revised February data, first quarter deliveries rose over 8 percent, not far from the increase in available seat miles for the same period of about 10 percent. In light of the below-trend performance for gasoline and distillate deliveries in April, kerosine jet fuel's 5.3 percent increase for that month may also be somewhat below consumption gains if traffic growth continued at the first quarter's rate.

Other Oils

YEAR-TO-DATE RISE ALMOST 5 PERCENT. Deliveries of other oils rose 7.8 percent in April, bringing the year-to-date rise to almost 5 percent. The recent strengthening for this category of petroleum products, which slipped 0.4 percent in 1986, has been due in part to rising propane deliveries as its cost relative to heavier petrochemical feedstocks has become more attractive in recent months. Increases for other petrochemical feedstocks and lube oils have contributed as well.

SUPPLY[1/]

Production

CRUDE DOWN 770 MBD FROM FEBRUARY 1986. April's year-to-year drop in crude oil production—down about 440 thousand B/D—does not tell the whole story of domestic crude oil's decline because production was already falling last April. Since the recent-year peak in February last year, lower 48 production has fallen about 850 thousand B/D or 12 percent. Even with an increase in Alaska, where the coming on stream of recently-completed facilities at Lisburne and Kuparuk late last year has helped to boost Alaska's share of total output to nearly one

fourth, U.S. production as a whole is still down roughly 770 thousand B/D. Natural gas liquids contributed another 160 thousand B/D to the drop in domestic supplies over the same period.

Drilling activity continued at lower levels in the first quarter; API's estimated total well completions were down by 47 percent from two years ago. Maintenance of existing wells, too, has not shown any major recovery, despite the modest strengthening of crude oil prices in the past several months. The number of active service rigs has hovered near the 2,500 to 2,700 range since last summer, down about 45 percent in the first quarter of this year versus first quarter 1985. Cuts in well servicing can reduce a field's production rate and shorten its economic life.

The decline in drilling and servicing activity that has taken place since the beginning of last year has taken its toll on equipment availability as well. The number of available drilling and servicing rigs has declined by roughly 10 percent or more in that period, but many of those classified as "available" are lacking parts, in need of repair, lacking crews, or otherwise not immediately ready for service. According to industry surveys, more than one fifth of "available" drilling rigs and one seventh of service rigs fall in this category.

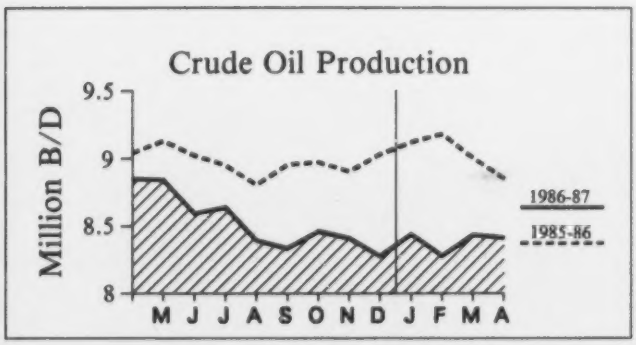
Imports

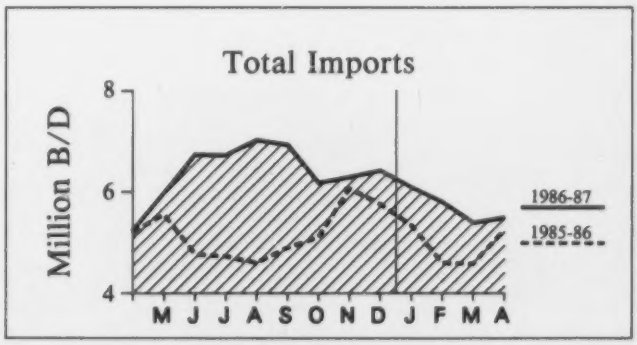
SMALL RISE MASKS GROWING DOMESTIC SUPPLY/DEMAND GAP. Rising about 100 thousand B/D from March's levels, April's imports reversed the month-to-month slippage that had been taking place during the early part of this year. However, the month's 5.5 million B/D in imports was still roughly 900 thousand B/D lower than for as recently as December. Year-to-year, imports rose less than 250 thousand B/D, but April's small increase understates the growth in imports requirements implied by domestic production declines and consumption trends. April's estimated consumption gain of 250 to 350 thousand B/D, when combined with the April-to-April decline in petroleum liquids production of 450 thousand B/D, would have increased the gap to be filled by imports by 700 to 800 thousand compared with last April. Compared with April 1985, the figure rises to over 1 million B/D.

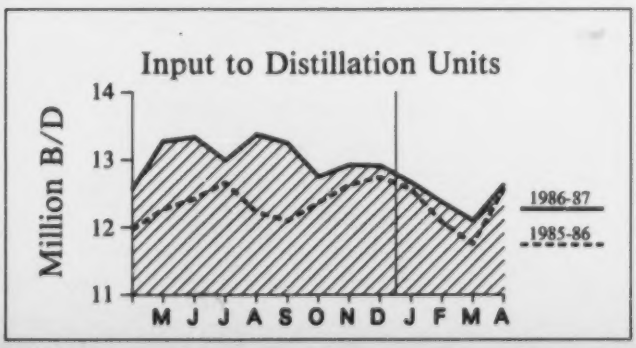
April's rise in imports from the prior month was due to an increase in crude oil imports, and despite the fact that last April marked the beginning of a crude oil import surge that peaked in September at over 5 million B/D, this April's crude oil imports still rose a modest 165 thousand B/D year-to-year. Product imports also increased year-to-year by about 80 thousand B/D. Residual fuel oil imports rose 95 thousand B/D but were well within the range of the past several months; imports of gasoline and components held nearly steady, rising only 16 thousand B/D to 373 thousand B/D.

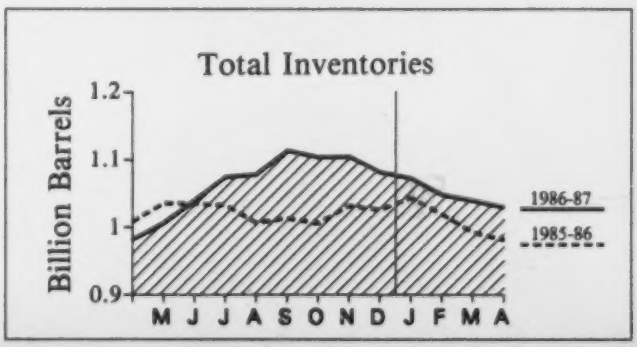
Refinery Operations

UTILIZATION NEARLY EQUALS LAST YEAR'S. After slipping below 78 percent in March due to seasonal turnarounds, utilization of distillation capacity jumped back to nearly 81 percent in April. This was close to last April's rate when refinery activity was picking up in order to process the higher volume of crude oil imports. Gasoline production for April rose close to 5 percent while distillate output fell almost 10 percent from last year's unusually high April level. In the face of declining demand, production of residual fuel oil dropped about 8 percent.









Inventories

GASOLINE PUTS STOCKS TOTAL AT HIGHEST IN 3 YEARS. Despite April's month-to-month rise in crude oil imports, refinery utilization rates of over 80 percent helped to draw down crude oil stocks during April by nearly 7 million barrels. Even though total inventories fell 10 million barrels, they still ended the month at the highest April level since 1984.

Gasoline stocks, in particular, were roughly 30 to 35 million barrels above the level of the prior two Aprils as the month's below-trend deliveries held gasoline inventories' drawdown to 2.5 million barrels. Distillate stocks declined 7 millions barrels in April, ending the heating season only slightly above the level of recent previous years.

1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 522 million barrels as of April 30, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	APRIL			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	7,120	7,083	0.5	6,803	6,749	0.8
Finished leaded motor gasoline*	1,807	2,270	(20.4)	1,737	2,180	(20.3)
Finished unleaded motor gasoline*	5,313	4,813	10.4	5,066	4,569	10.9
Naphtha-jet	226	190	18.9	201	192	4.7
Kerosine-jet	1,119	1,063	5.3	1,139	1,061	7.4
Distillate fuel oil	2,798	2,939	(4.8)	3,116	3,197	(2.5)
Residual fuel oil	1,237	1,325	(6.6)	1,342	1,398	(4.0)
All other oils[4]	3,734	3,463	7.8	3,880	3,710	4.6
Reclassified[5]	- 300	- 318	(5.7)	- 269	- 329	(18.2)
Total domestic products supplied	15,934	15,745	1.2	16,212	15,978	1.5
Exports	905	827	9.4	885	813	8.9
Total products supplied	16,839	16,572	1.6	17,097	16,791	1.8
Supply:						
Domestic production:						
Crude oil[6]	8,413	8,850	(4.9)	8,413	9,037	(6.9)
Natural gas liquids	1,546	1,561	(1.0)	1,557	1,652	(5.8)
Other supply[7]	1,053	559	88.4	977	810	20.6
Total domestic supply	11,012	10,970	0.4	10,947	11,499	(4.8)
Imports:						
Crude oil, total	3,811[10/]	3,646[10/]	4.5	3,871[10/]	3,214[10/]	20.4
Canadian	583	572	1.9	556	516	7.8
Other	3,228	3,074	5.0	3,315	2,698	22.9
Products, total	1,684	1,601	5.2	1,822	1,732	5.2
Residual fuel oil	599	504	18.8	611	571	7.0
Other	1,085	1,097	(1.1)	1,211	1,161	4.3
Total imports	5,495	5,247	4.7	5,693	4,946	15.1
Total supply	16,507	16,217	1.8	16,640	16,445	1.2
Stock change, all oils	- 332	- 355	XXXX	- 457	- 346	XXXX
Refinery Operations						
Input to crude oil distillation units	12,638	12,569	0.5	12,447	12,241	1.7
Operable capacity	15,621	15,469	1.0	15,614	15,520	0.6
Refinery utilization (%)[8]	80.9%	81.3%	(0.5)	79.7%	78.9%	1.0
Crude oil runs	12,554	12,483	0.6	12,358	12,108	2.1

Stocks (millions bbls.)	1987		1986[2]	% Change from ...	
	Apr. 30[9]	Mar. 31[9]	Apr. 30	Previous Month	Year Ago
Crude oil 10/	328.4	335.2r/	338.2	(2.0)	(2.9)
Unfinished oils	105.8	106.5r/	108.4	(0.7)	(2.4)
Total motor gasoline**	243.5	246.0r/	208.6	(1.0)	16.7
Finished leaded motor gasoline*	59.9	64.9r/	66.0	(7.7)	(9.2)
Finished unleaded motor gasoline*	142.0	138.2r/	108.6	2.7	30.8
Naphtha-jet	6.6	6.8r/	6.7	(2.9)	(1.5)
Kerosine-jet	40.6	41.8r/	38.6	(2.9)	5.2
Distillate fuel oil	100.2	107.2r/	95.3	(6.5)	5.1
Residual fuel oil	38.0	38.0r/	35.9	-	5.8
All other oils	166.4	157.9r/	152.1	5.4	9.4
Total all oils	1,029.5	1,039.4r/	983.8	(1.0)	4.6

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-February, U.S. Department of Energy, March-April, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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American Petroleum Institute
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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 11, No. 5

JUNE 17, 1987

MAY 1987

SUMMARY

Total deliveries in May jumped more than 4 percent or 647 thousand B/D from a year ago, primarily because of strong deliveries for gasoline, kerosine jet fuel, and other oils. Gasoline deliveries, in particular, rose a surprising 7 percent or nearly half a million B/D, in sharp contrast to generally weak performance earlier this year. Actual consumption growth for gasoline, however, is probably closer to 2 percent and similar for total deliveries.

Meanwhile, distillate deliveries declined year to year for the fourth month in a row, despite indications of stable consumption; residual fuel oil continued its decline from last year's fuel-switching-related surge.

Imports in May were about equal to last year's level. However, while a significant portion of last May's imports went towards inventory building, this May's imports were not enough to keep stocks from falling contraseasonally by 17 million barrels. With lower domestic crude oil production—down about 740 thousand B/D from the February 1986, recent-year peak—and higher deliveries, imports would ordinarily have risen by over 1.3 million B/D year to year if inventory behavior had been more typical both years. Strong deliveries and caution in view of world oil market uncertainties both contributed to May's stock decline.

Percentage utilization of refining capacity averaged in the low 80s for the month, similar to April's rate but down from last May's unusually high level. Compared with previous Mays, refinery yield patterns emphasized gasoline production over other products.

PRODUCTS SUPPLIED [1/]

Gasoline

WEAK PERFORMANCE REVERSED IN MAY. In one of the largest increases since the middle of last year, gasoline deliveries for May rose 7 percent or nearly one half million B/D. This surprising growth, larger than any likely consumption increase, contrasts with the generally weak deliveries performance of the past several months which, we believe, understated consumption gains. Averaging out the fluctuations in gasoline deliveries' growth rates for the first five months of this year yields a 2.3 percent gain over the same period last year. This is roughly in line with the likely growth in actual usage as consumers continue to adjust to retail prices which are about one fourth lower than two years ago on an inflation-adjusted basis.

Gasoline consumption and deliveries may actually be higher than shown by API or Department of Energy data (to which the API series is keyed), if data collected independently by the Department of Transportation are taken as a benchmark. The growing discrepancy between Department of Transportation and Department of Energy data, however, has taken several years to develop and may not necessarily affect short-term comparisons significantly. (For more on this subject, see page 2).

Coinciding with the continued spread of mid-grade unleaded, unleaded premium's share of deliveries, which had been booming in the last half of last year, has flattened and even declined slightly in recent months. Nevertheless, the share of all unleaded grades increased more than 8 percentage points year to year in May, bringing unleaded's share to over 75 percent for the first time.

Distillates

DELIVERIES FALL FOR FOURTH TIME THIS YEAR. For the fourth month in a row, distillate deliveries declined year to year despite indications that consumption has been stable. May's decline of 3.0 percent brought year-to-year date deliveries to 3.1 percent or roughly 100 thousand B/D below last year's first five months, the lowest for that period in four years. When adjusted for understated deliveries for January, 1986, the decline becomes 3.6 percent for the year to date.

This year's deliveries decline has come in spite of a year-to-date increase in truck traffic of from 1 to 2 percent and a similar rise in rail traffic. Heating use has likely been about the same both years, as lower oil prices this past season halted most conversions to other fuels and weather averaged about the

API ESTIMATES	MAY		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	16.5	4.1	16.3	2.2
Crude oil production[2/]	8.4	(4.5)	8.4	(6.7)
Total imports[3/]	6.0	(0.1)	5.8	12.2
Stocks (million bbl)[3/]	1,015	0.7	na	na

ARE DOE GASOLINE DELIVERIES UNDERSTATED?

Department of Transportation (DOT) data on gasoline sales have traditionally been somewhat higher than Department of Energy (DOE) deliveries estimates, but the gap has increased in the past three years. The discrepancy could be the result of numerous factors, with one possibility being that the DOE data are too low.

The Department of Transportation bases its data on state reports on excise tax collections and publishes a preliminary report monthly. Later, in preparing the final estimate, adjustments are made which regularly result in a lower figure than the preliminary monthly series. This downward adjustment should be kept in mind when comparing preliminary 1986 DOT data with DOE deliveries data for that year.

The DOE data, to which API's estimates are keyed, are collected further up the distribution chain, showing deliveries from primary storage—that is, refineries, bulk terminals, and pipelines. Two differences between the DOE and DOT data are 1) aviation gasoline is included by DOT but treated seperately by DOE. The amount involved has typically been 25 to 30 thousand B/D. 2) DOE data include only ethanol blended within the primary system; most is blended further down the distribution chain and thus is not measured by the Department of Energy. Based on DOT gasohol data, the quantity of ethanol consumed as motor fuel but not measured by DOE is on the order of 50 thousand B/D.

The accompanying table displays DOT "total gasoline use" as published annually, DOT data with aviation gasoline and estimated ethanol blending removed to make the series comparable with DOE data, and DOE's published data on gasoline deliveries. The adjusted DOT figure for 1986 is based on the preliminary series, adjusted downwards by about 80 thousand B/D to exclude aviation gasoline and ethanol blending, and another 70 thousand B/D as the average remaining adjustment made by DOT in the previous three years. As the table shows, the gap between the two series has grown from around 60 thousand B/D in 1982 and 1983 to 100-115 thousand B/D in more recent years.

It seems more probable that the DOE data would be understated than that the DOT data would be too high. It is unlikely that tax-related data would be overstated or double-counted since those paying the tax have no incentive to overpay excise taxes. In addition, DOE data have on occasion been understated in the past. In 1981, for example, extension of the reporting system brought in roughly 300 thousand B/D in additional gasoline deliveries that had not been included in data immediately prior to that time. In 1985, the inclusion of additional blenders increased measured gasoline deliveries, but only by a minor amount.

As to whether DOE gasoline deliveries are currently understated and why, the answer is not clear. The growing gap between DOT and DOE data suggest, however, that further investigation is needed.

COMPARISON OF DOT AND DOE GASOLINE DATA
(Thousand B/D)

	Department of Transportation		Department of Energy	Difference, DOE Versus Adjusted DOT
	Total Gasoline Use	Adjusted to DOE Basis		
1982	6,637	6,599	6,539	60
1983	6,731	6,677	6,622	55
1984	6,850	6,790	6,693	97
1985	7,020	6,944	6,831	113
1986	na	7,150	7,034	116

Sources: "Total Gasoline Use" from *Highway Statistics,* various years, Department of Transportation; "Adjusted to DOE Basis", API; "Department of Energy" from *Petroleum Supply Annual,* 1982 to 1986.

same for January to May this year as for last. Changes in other demand sectors, too, have probably had only a minor effect on total consumption. The continued discrepancy between deliveries declines and consumption indicators is as of yet unresolved, though nonprimary inventory movements likely provide at least part of the explanation.

Residual Fuel Oil

SWITCHING-RELATED DECLINE CONTINUES. Reduced consumption of residual fuel oil at electric utilities continued to be a drag on deliveries in May, which fell nearly 9 percent or close to 120 thousand B/D. Declines in utility usage are estimated to account for 70 to 100 thousand B/D of May's decline, with the rest due mainly to decreased domestic bunkering. The switch back to other fuels at utilities has been encouraged by higher residual fuel oil prices and natural gas prices that continue to be soft.

In addition to increased generation from natural gas, up 5.6 percent in the first quarter and perhaps more for more recent months, increased nuclear generation this year has helped to reduce petroleum's already-small share of generation to less than 5 percent currently. First quarter nuclear generation, in fact, was up 14 percent year-to-year, leaving coal with a 1 percent loss for the period.

Kerosine Jet Fuel

DELIVERIES FOR FIVE MONTHS RISE ALMOST 9 PERCENT.

May's kerosine jet fuel deliveries rose 8 percent or 82 thousand B/D, and for the year to date the deliveries increase was only slightly less than last year's annual rise of close to 10 percent.

The continuation of strong growth in kerosine jet fuel consumption this year reflects a similar pattern in air traffic, for which the increase in total available seat miles for the year to date is estimated to be almost as large as last year's 11 percent rise. Though cargo traffic's growth rate this year has been somewhat less, at 7 to 8 percent, it accounts for only about a fifth of revenue ton-miles and thus its less-rapid growth has had only a limited effect on overall air traffic increases.

Other Oils

PETROCHEMICAL SALES PUSH UP DELIVERIES.

Deliveries of other oils, which had been relatively flat until recently, continued to show signs of renewed growth in May, rising 8.4 percent or 315 thousand B/D. First quarter data from the Department of Energy indicate that, although there has been growth for most products in this category in 1987, strong demand for petrochemicals has played a significant role in the increase.

Deliveries of naphtha-based feedstocks rose 39 thousand B/D or over 30 percent in the first quarter, while propane deliveries for all uses increased 143 thousand B/D or over 15 percent over last year's poor showing. Despite crude oil costs higher, relative to natural gas, than in the latter half of last year, ethane has shown little sign of recovery. Strong demand for non-ethylene derivatives produced from heavier feedstocks apparently led to ethane's first quarter decline of 56 thousand B/D or 10 percent. A 37 thousand B/D increase for lubricants also contributed to the 170 thousand B/D rise in first quarter deliveries of total other oils.

SUPPLY [1/]

Production

ALASKAN INCREASE OUTWEIGHED BY LOWER 48 DECLINE.

May crude oil production fell 398 thousand B/D or 4.5 percent, year to year, but because lower world oil prices were already depressing production a year ago, the decline from the early 1986 recent-year peak amounted to about 740 thousand B/D.

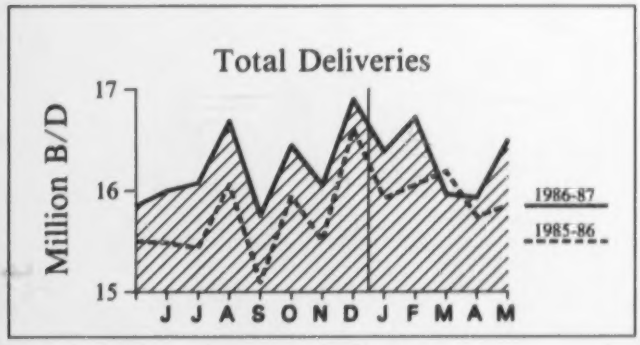
Lower 48 production has remained in the 6.4 million B/D range since the beginning of the year, after falling dramatically in 1986. This may indicate that the rapid fall in oil prices in 1986 quickly reduced production from existing marginal wells which had become uneconomic; the effect of reduced drilling, however, at roughly half of what it had been just prior to last year's crude oil price decline, has likely only just begun to become apparent.

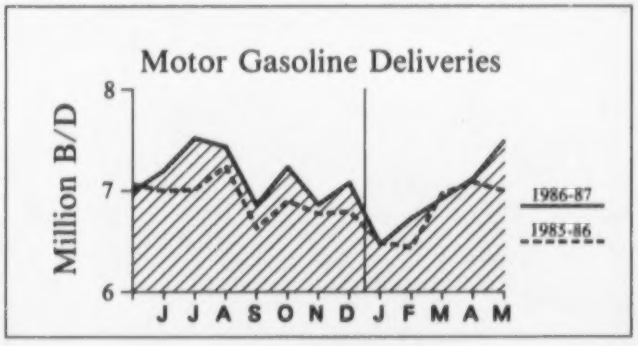
The reduced production level in the lower 48, still at about 850 thousand B/D below the recent-year peak of early 1986, has been only partially compensated for by increased Alaskan production. Production there has been averaging about 100 thousand B/D higher so far this year compared with early 1986, due to completion last December of several production projects begun before the 1986 price decline.

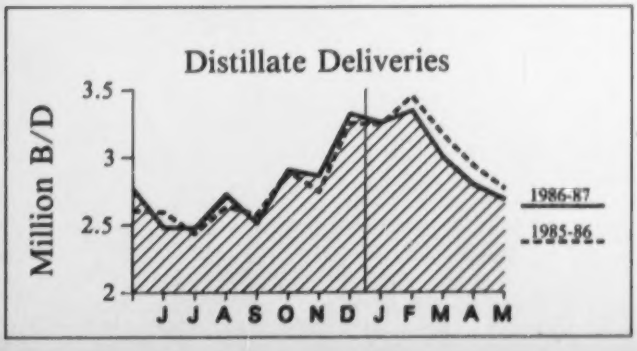
Imports

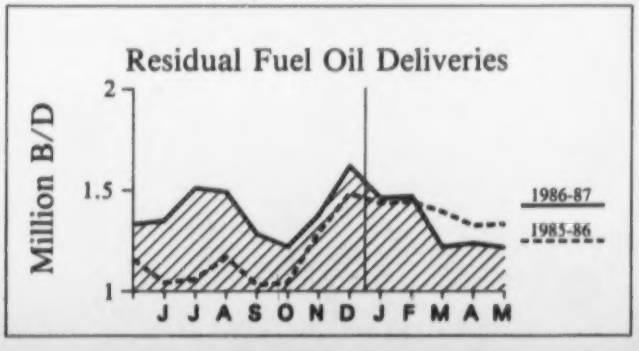
ALMOST EVEN, THOUGH PRODUCTION IS DOWN, DEMAND HIGHER.

Total imports in May roughly equalled those of last May, when imports were accelerating as refiners took advantage of favorable crude oil pricing terms. But while a significant portion of last May's imports went towards building inventories, this May's imports were not enough to keep inventories from falling contraseasonally as a result of lower domestic production and higher demand. Had stock movements been the same both months, this May's imports would have risen more than 1.3 million B/D over last May.









Crude oil imports rose close to 175 thousand B/D year to year, but product imports fell by a similar amount. The product decline was mainly due to a 128 thousand B/D drop in imports of gasoline and components to 332 thousand B/D. Though deliveries of residual fuel oil have declined about 65 thousand B/D for the year to date, the reduction has come out of refinery production rather than imports. Imports of residual fuel oil were almost even in May and up over 4 percent for the year to date.

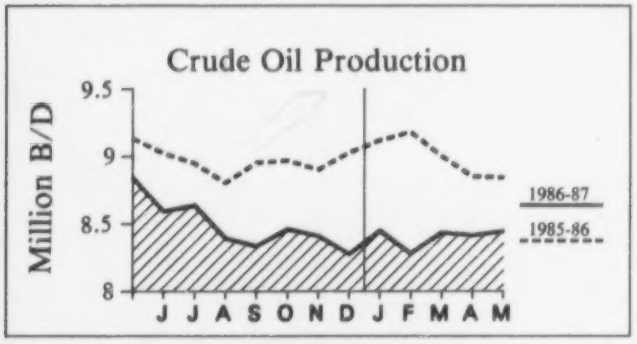
Refinery Operations

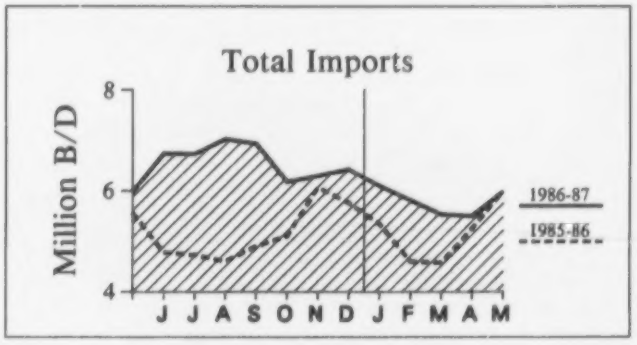
GASOLINE OUTPUT EMPHASIZED. May's percentage utilization of refinery capacity averaged in the low 80s, similar to April's experience. However, because of unusually high runs last May, when utilization had reached the highest monthly level since 1979, this May's input to distillation units showed a greater than 4 percent decline by comparison. Despite this drop, gasoline production fell only 2.4 percent year to year and was actually more than 5 percent higher than for May 1985, as refinery yield patterns emphasized gasoline over other products. In the face of continued weak deliveries, distillate production declined over 11 percent year to year and almost 6 percent versus two years ago. Residual fuel oil production also declined substantially because of lower deliveries, falling close to 12 percent from last May.

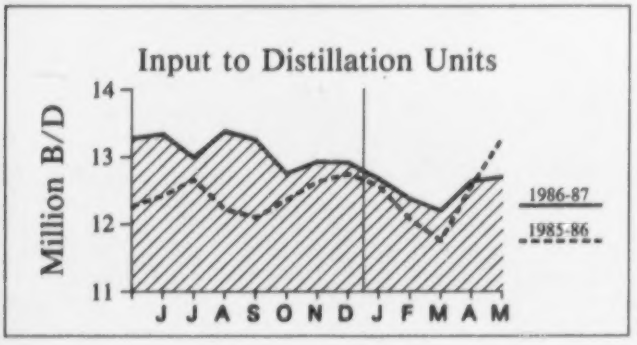
Inventories

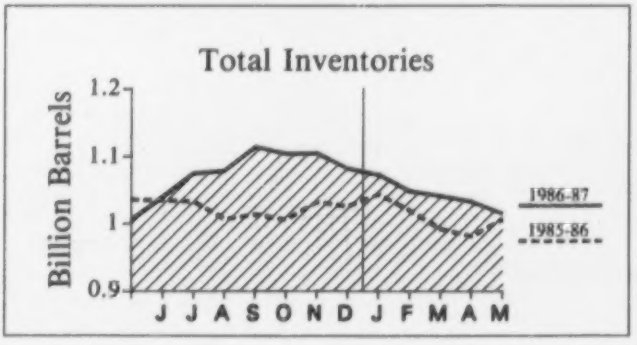
17 MILLION BARREL DROP CONTRARY TO USUAL MAY PATTERN. Total inventories' decline in May of 17 million barrels was contrary to the typical seasonal pattern and a departure from recent previous months' less-than-seasonal declines as well. May's drop contrasts with an average 17 million barrel increase for the five previous Mays. Gasoline inventories, in particular, which had begun the month at the highest level in three years, fell 12 million barrels versus an average increase of about 3 million barrels. Even so, gasoline stocks ended the month about 9 million barrels ahead of last year.

Distillate stocks, at 99 million barrels, were in the range of end-of-season lows experienced in recent years, while crude oil stocks slipped another 4 million barrels to the lowest level since late 1985. May's inventory behavior can be attributed to a combination of strong gasoline deliveries helping to work off inventories of that product and caution in holding stocks in view of uncertain world oil markets.









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2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 525 million barrels as of May 31, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	MAY			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	7,488	6,995	7.0	6,954	6,800	2.3
Finished leaded motor gasoline*	1,823	2,281	(20.1)	1,765	2,200	(19.8)
Finished unleaded motor gasoline*	5,665	4,714	20.2	5,189	4,600	12.8
Naphtha-jet	209	230	(9.1)	203	200	1.5
Kerosine-jet	1,101	1,019	8.0	1,143	1,052	8.7
Distillate fuel oil	2,689	2,771	(3.0)	3,014	3,110	(3.1)
Residual fuel oil	1,216	1,333	(8.8)	1,319	1,385	(4.8)
All other oils[4]	4,058	3,743	8.4	3,940	3,717	6.0
Reclassified[5]	- 262	- 239	9.6	- 269	- 311	(13.5)
Total domestic products supplied	16,499	15,852	4.1	16,304	15,953	2.2
Exports	851	715	19.0	857	792	8.2
Total products supplied	17,350	16,567	4.7	17,161	16,745	2.5
Supply:						
Domestic production:						
Crude oil[6]	8,444	8,842	(4.5)	8,396	8,997	(6.7)
Natural gas liquids	1,585	1,594	(0.6)	1,590	1,640	(3.0)
Other supply[7]	783	940	(16.7)	930	837	11.1
Total domestic supply	10,812	11,376	(5.0)	10,916	11,474	(4.9)
Imports:						
Crude oil, total	4,166[10/]	3,993[10/]	4.3	3,957[10/]	3,374[10/]	17.3
Canadian	587	582	0.9	560	529	5.9
Other	3,579	3,411	4.9	3,397	2,845	19.4
Products, total	1,810	1,987	(8.9)	1,832	1,784	2.7
Residual fuel oil	650	665	(2.3)	616	590	4.4
Other	1,160	1,322	12.3	1,216	1,194	1.8
Total imports	5,976	5,980	(0.1)	5,789	5,158	12.2
Total supply	16,788	17,356	(3.3)	16,705	16,632	0.4
Stock change, all oils	- 562	+ 789	XXXX	- 456	- 113	XXXX
Refinery Operations						
Input to crude oil distillation units	12,702	13,277	(4.3)	12,519	12,454	0.5
Operable capacity	15,621	15,487	0.9	15,629	15,513	0.7
Refinery utilization (%)[8]	81.3%	85.7%	(5.1)	80.1%	80.3%	(0.2)
Crude oil runs	12,572	13,259	(5.2)	12,417	12,344	0.6

Stocks (millions bbls.)	1987		1986[2]	% Change from ...	
	May 31[9]	Apr. 30[9]	May 31	Previous Month	Year Ago
Crude oil[10/]	323.3	327.4r/	328.9	(1.3)	(1.7)
Unfinished oils	104.1	105.7r/	112.0	(1.5)	(7.1)
Total motor gasoline**	231.3	243.5	222.6	(5.0)	3.9
Finished leaded motor gasoline*	57.8	59.9	71.5	(3.5)	(19.2)
Finished unleaded motor gasoline*	134.4	142.0	118.0	(5.4)	13.9
Naphtha-jet	7.2	6.5r/	6.1	10.8	18.0
Kerosine-jet	39.1	40.9r/	38.8	(4.4)	0.8
Distillate fuel oil	99.2	100.2	97.8	(1.0)	1.4
Residual fuel oil	40.9	38.0	39.6	7.6	3.3
All other oils	170.3	170.6r/	162.5	(0.2)	4.8
Total all oils	1,015.4	1,032.8r/	1,008.3	(1.7)	0.7

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-March, U.S. Department of Energy, April-May, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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American Petroleum Institute
1220 L Street, Northwest
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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 11, No. 6

JULY 15, 1987

JUNE 1987

SUMMARY

Total deliveries' stronger growth in the past several months—up 2.8 percent for June and 3.1 percent for the second quarter—contributed to petroleum's growing share of total energy consumption for the first half; the increased reliance on petroleum was a continuation of last year's reversal of a nearly ten-year decline. A principal contributor to the first half deliveries increase of 2.1 percent was unexpectedly strong growth in gasoline demand—up 3.9 percent in the second quarter and 2.4 percent for the first six months. Strong demand from the petrochemical sector has also led to substantial growth in demand for other oils.

Residual fuel oil deliveries, however, fell nearly 8 percent for the half after rising over 20 percent for the previous six months. Excluding residual fuel oil and its fuel-switching-related swings, deliveries of all other products rose 3.0 percent in 1987's first half—double the rate of last year's first half and continuing the growth rate of the second half, when lower prices were beginning to encourage greater consumption.

Natural gas liquids production has recovered somewhat from last year's low point as the economics of liquids extraction from natural gas streams have improved. Crude oil production, however, slipped below 8.4 million B/D in June, down more than 800 thousand B/D from early 1986 levels.

Due to inventory shifts, June's imports were almost even with last June's high level, and the first six month's 7.5 percent increase was only about half the rate indicated by rising demand and falling crude oil production. Input to distillation units at refineries nearly matched last June's recent-year record for that month, though a lower-gravity crude slate apparently shifted product yields towards heavier products. Inventories ended the month at the lowest level in more than a decade, an indication of caution with regard to the uncertain behavior of OPEC and its members.

PRODUCTS SUPPLIED [1/]

Total Energy

RELIANCE ON OIL CONTINUES TO GROW. Continuing last year's reversal, petroleum's share of total energy consumption again rose in the first half of 1987 compared with the first half of 1986 (see table on page 2). Until last year, oil's share had declined from nearly half in 1977 to a little over 43 percent in 1986. Because of seasonal differences in the consumption of the various energy sources, the first half's share is typically less than for the year as a whole; this explains why oil's share of about 43 percent in the first six months of 1987, though more than a percentage point greater than for a year ago, is somewhat less than for 1986 as a whole.

Petroleum's increased share, as in 1986, came at the expense of coal and natural gas, though some fuel switching back to gas in recent months has reduced the loss for that fuel. "Other" energy also increased its share in the first half, primarily because of additions to nuclear generation capacity.

Though total energy usage declined slightly for the first half, this was due to a large first quarter drop for natural gas stemming in part from warmer weather in the Midwest; second quarter energy consumption is believed to have increased over the year-ago period, though data as of yet are incomplete.

API ESTIMATES	JUNE		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	16.5	2.8	16.4	2.1
Crude oil production[2/]	8.4	(3.1)	8.4	(6.1)
Total imports[3/]	6.7	(0.8)	6.0	7.5
Stocks (million bbl)[3/]	1,015	(2.5)	na	na

ESTIMATED ENERGY CONSUMPTION AND SHARES BY TYPE

Consumption (Quadrillion BTU)

	Coal	Natural Gas	Petroleum	Other	Total
First half 1986	8.5	9.5	15.8	4.0	37.7
First half 1987	8.3	9.0	16.1	4.1	37.6
Change	-0.2	-0.5	+0.3	+0.2	-0.2
Percent change	-2.1%	-4.9%	+2.1%	+4.1%	-0.4%

Market Shares (Percent)

First half 1986	22.5	25.1	41.8	10.6	100.0
First half 1987	22.1	24.0	42.9	11.0	100.0
Percentage point change in share	-0.4	-1.1	+1.1	+0.4	

Note: Figures rounded independently; calculations based on unrounded data.
Sources: Department of Energy, API estimates.

Gasoline

LOWER PRICES STILL HAVING AN EFFECT. Continued strength in June's deliveries of motor gasoline, which rose 3.4 percent, helped to push deliveries for the first half to nearly 7.1 million B/D, up 2.4 percent over the first six months of 1986. The second quarter's growth in deliveries, in particular, was unusually strong. Though the first half's growth rate was less than the over 4 percent rise of the latter half of 1986, it was still higher than anticipated by most analysts and slightly exceeded first half 1986's 1.9 percent rise, a period in which the large price decline had only begun to have its effect.

The lower gasoline prices of the past year appear to be the main factor behind gasoline deliveries' growth. Changes in real disposable income, about even in the first half of 1987 compared with a year ago, have not provided any significant boost to demand. But inflation-adjusted retail prices still one fourth lower than two years ago and half the early 1981 peak have encouraged additional driving; miles travelled in the first half are estimated to be nearly 5 percent higher than for the first six months of 1986.

Distillates

FIRST HALF ALMOST EQUALS LAST YEAR. In contrast with the weak performance of recent previous months, distillate deliveries jumped 9.2 percent, or over 200 thousand B/D, in June. Erratic deliveries patterns in the past several months, more likely due to nonprimary inventory movements this year and last than to unusual swings in consumption, have obscured the underlying trend. However, with June's strong increase, first half deliveries were almost even with those of the first six months of last year, falling more into line with indications that consumption has been stable so far this year. Increases in truck and rail usage in the first half of from 1 to 2 percent, small increases in industrial consumption, a decline for farm use, and stable residential and commerical consumption together indicate that distillate consumption continues to be flat or rising slightly.

Residual Fuel Oil

BUNKERING AND FUEL SWITCHING BOTH AID DELIVERIES DECLINE. Though residual fuel oil deliveries have been showing declines compared with the year-ago months—and June's over 15 percent decline was no exception—the reversal of last year's price-induced fuel switching to residual fuel oil apparently has not been complete. Higher residual fuel oil prices this year, combined with spot natural gas prices that have remained near 1986's low levels, have at least partly reduced residual fuel oil use, particularly at electric utilities. But for the year to date, deliveries have fallen about 8 percent, down only about two thirds of the way towards the level of first half 1985, before last year's significant oil price decline caused switching to residual fuel oil.

Vessel bunkering at U.S. ports has also been declining this year, as ships engaged in foreign trade have shifted to fuel sources outside the U.S. Of the roughly 100 thousand B/D decline in residual fuel oil deliveries in the first half, about one third is attributable to reduced bunker fuel deliveries and the rest to fuel switching.

Kerosine Jet Fuel

FIRST HALF RISES ALMOST 7 PERCENT. Kerosine jet fuel deliveries rose a scant 0.3 percent in June year to year, but first half deliveries nevertheless registered an increase of nearly 7 percent. Though on a monthly basis, deliveries track air traffic trends only moderately well at best, June's reduced growth coincides, at least directionally, with recent smaller increases in jet traffic. Miles flown had surged ahead in the first four months of the year at an average 9 to 10 percent, only somewhat less than last year's nearly 12 percent rise. But traffic data for May, the latest available, indicate only about a 6 percent increase more recently, with both domestic and international flights experiencing slower rates of growth in that month.

Other Oils

PROPANE STRENGTH CONTRIBUTES TO DELIVERIES RISE. Products supplied in the "other oils" category in June 1987 are estimated to be 4,070 thousand B/D, an increase of 4.6 percent from June 1986, somewhat less than those for April and May. Nonetheless, the second quarter of 1987 registered a robust 7.2 percent increase, substantially higher than the 2.8 percent recorded for the first quarter. For the first half of the year, deliveries of other oils rose 5.0 percent from the levels of 1986.

The propane market, comprising almost one-fourth of "other oils" supplied, accounts for nearly all of the strength in this category. Propane deliveries are up an estimated 15-20

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

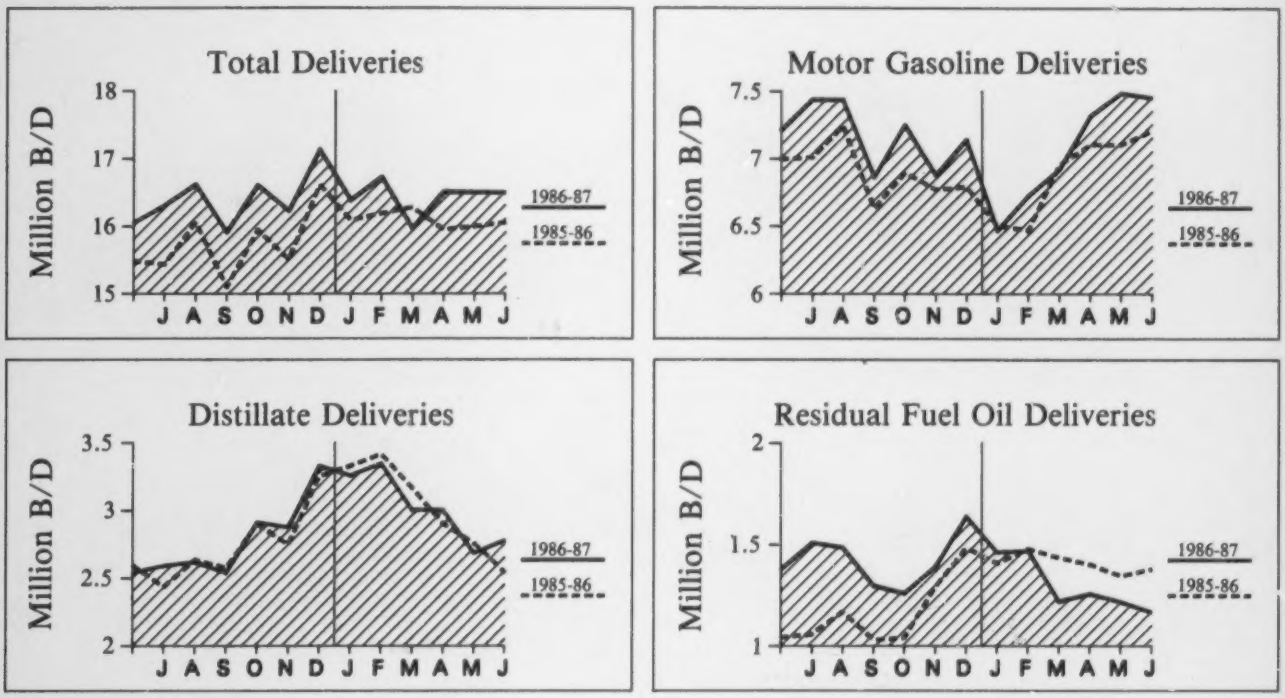
Products Supplied/Supply From Primary Storage	2nd QUARTER		
	1987[1]	1986[2]	% Change
Products Supplied:			
Total motor gasoline	7,418	7,140	3.9
Finished leaded motor gasoline*	1,855	2,332	(20.5)
Finished unleaded motor gasoline*	5,563	4,808	15.7
Naphtha-jet	206	202	2.0
Kerosine-jet	1,113	1,074	3.6
Distillate fuel oil	2,823	2,737	3.1
Residual fuel oil	1,213	1,374	(11.7)
All other oils[3]	4,002	3,732	7.2
Reclassified[4]	- 280	- 263	6.5
Total domestic products supplied	16,495	15,996	3.1
Exports	836	738	13.3
Total products supplied	17,331	16,734	3.6
Supply:			
Domestic production:			
Crude oil[5]	8,410	8,776	(4.2)
Natural gas liquids	1,597	1,523	4.9
Other supply[6]	883	801	10.2
Total domestic supply	10,890	11,100	(1.9)
Imports:			
Crude oil, total	4,351 9/	4,137 9/	5.2
Canadian	593	611	(2.9)
Other	3,758	3,526	6.6
Products, total	1,806	2,041	(11.5)
Residual fuel oil	545	644	(15.4)
Other	1,261	1,397	(9.7)
Total imports	6,157	6,178	(0.3)
Total supply	17,047	17,278	(1.3)
Stock change, all oils	- 284	+ 544	XXXX
Refinery Operations			
Input to crude oil distillation units	12,865	13,090	(1.7)
Operable capacity	15,635	15,474	1.0
Refinery utilization (%)[7]	82.3%	84.6%	(2.7)
Crude oil runs	12,737	13,020	(2.2)

Stocks (millions bbls.)	2nd QUARTER		
	1987[8]	1986[2]	% Change
Crude oil	324.6 9/	326.7 9/	(0.6)
Unfinished oils	104.2	108.4	(3.9)
Total motor gasoline**	230.9	230.5	0.2
Finished leaded motor gasoline*	56.6	74.1	(23.6)
Finished unleaded motor gasoline*	135.7	121.6	11.6
Naphtha-jet	7.1	6.6	7.6
Kerosine-jet	38.0	39.7	(4.3)
Distillate fuel oil	103.7	107.9	(3.9)
Residual fuel oil	39.1	42.8	(8.6)
All other oils	167.0	178.5	(6.4)
Total all oils	1,014.6	1,041.1	(2.5)

1/ Source: U.S. Department of Energy, April; May-June, API.
2/ Source: U.S. Department of Energy.
3/ Includes crude losses.
4/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
5/ Includes lease condensate.
6/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
7/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
8/ Derived by interpolating API weekly stocks data.
9/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

percent for June, consistent with that of the second quarter as a whole, and similar to the 16.6 percent increase estimated for the first quarter. Recent oil price increases enabled it to recapture the market share of the olefin (especially ethylene) market which it had lost to naphtha and gasoil. Last year's oil price decline had made these fuels more competitive petrochemical feedstocks, displacing significant amounts of propane and ethane. Unusually mild weather also contributed to last year's weak demand, enabling propane to register significant increases in 1987.

In contrast to the steady strength exhibited by propane, many of the other products in this category experienced minimal year-to-year increases during the first quarter before firming up in the second. Much of the latest quarter's acceleration in the growth rate of "other oils" can be attributed to significant increases in deliveries of naphtha, butanes, and petroleum coke, all of which had been particularly weak in the first quarter.



SUPPLY [1/]

Production

SOME RECOVERY FOR GAS LIQUIDS BUT CRUDE STILL DOWN. Domestic crude oil production slipped below 8.4 million B/D in June to more than 800 thousand B/D or 9 percent below last February's recent-year peak. Recent increases in exploration and drilling activity have been relatively minor in comparison to last year's decline. The 169 seismic exploration crews active in June were up from a low of 150 last summer but were less than one half of 1985's level and one fourth of the 1981 average; similarly, about 100 more rigs were active in June than at last year's low point, but June's activity was still off 60 percent compared with 1985 and was only one fifth of the average for 1981. Servicing of existing wells, too, remains well below levels of a few years ago, down more than 40 percent compared with 1981 levels.

Natural gas liquids production, which had fallen below 1,450 thousand B/D last August, has risen since that time to about 1,600 thousand B/D in June. Last year's oil price decline had made the economics of extracting natural-gas-derived feedstocks less attractive relative to those from oil, and liquids production slipped. This year, oil prices have edged upwards and petrochemical demand has been strong, both contributing to some recovery in liquids extraction.

Imports

INVENTORY SHIFTS OBSCURE TRENDS. Imports, after declining for several months from last August's recent-year peak of 7.1 million B/D, then inching upwards in April and May, rose sharply in June over the prior month. Up 750 thousand B/D from May, June's 6.7 million B/D of imports came close to last June's high level. But while more than 1 million B/D of last June's imports were used to build inventories, almost all of this year's imports went to satisfy higher domestic demand and compensate for reduced domestic production.

Compared with the first half of last year, deliveries have been over 300 thousand B/D higher so far in 1987, and domestic production more than 500 thousand B/D lower. While these trends would have ordinarily led to an increase in imports roughly double the 7.5 percent first half increase, an inventory drawdown this year, coupled with a major buildup last year, served to obscure the underlying trend in imports. Since the first half of 1985, higher demand and lower domestic production have increased imports for the first six months by about 1.3 million B/D or 27 percent.

Though this June's imports were nearly the same as last June's, crude oil imports were over 260 thousand B/D higher and product imports correspondingly lower by about 320

thousand B/D. Residual fuel oil imports, in particular, fell over 270 thousand B/D year to year as refinery production of this fuel rose despite lower demand. Imports of gasoline and components also fell by 41 thousand B/D to 441 thousand B/D.

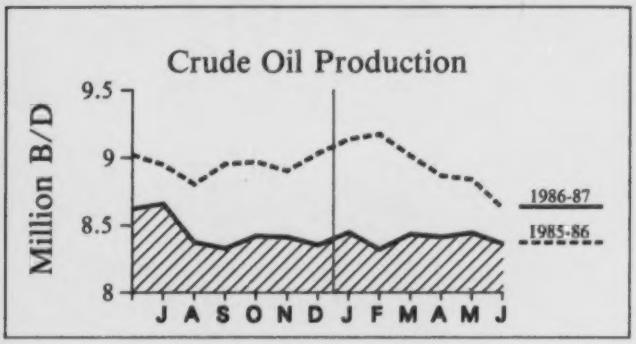
Refinery Operations

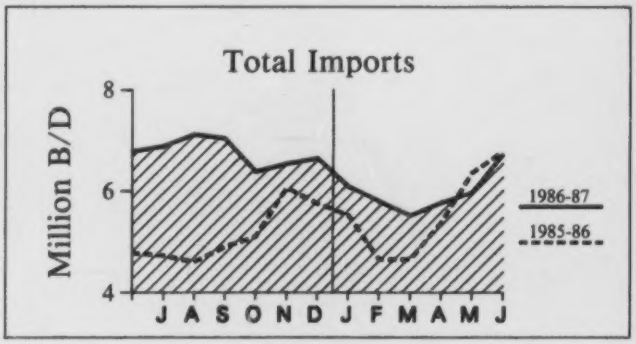
INPUT NEARLY MATCHES LAST JUNE. Input to distillation units in June nearly matched that of a year ago, but because of somewhat higher operable capacity, utilization dropped about a percentage point from last June's recent-year record for that month. Though production of gasoline and distillate both held steady, residual fuel oil output rose over 5 percent, an indication of a heavier crude slate this June than last.

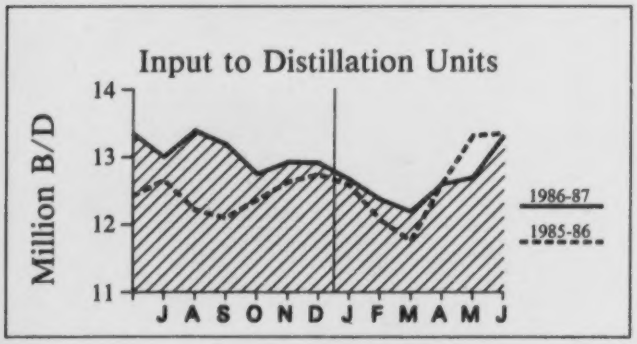
Operable refining capacity, which had declined by almost 3 million B/D from 1981 to 1985 at a time when percentage utilization rates were generally only in the 60s and 70s, declined only slightly in 1986, and has risen slightly—100 to 200 thousand B/D—so far this year. Downstream capacity, not included in the operable capacity measure but necessary to produce gasoline and other products of sufficient quality and quantity, has continued the expansion experienced last year as refiners adjust to lower lead levels mandated for gasoline.

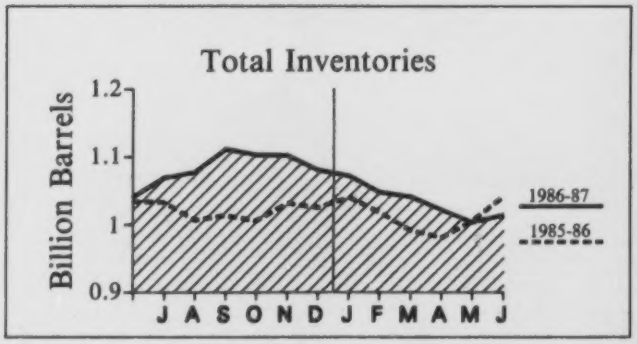
Inventories

STOCK LEVELS INDICATE CAUTION. Total stocks rose 11 million B/D during June, the first month-to-month increase since last September but an about-average increase for the month. Even so, total inventories were at the lowest June level in more than a decade, a sign of caution in regard to uncertain OPEC behavior. Crude stocks rose only slightly, and at 325 million barrels, remained in the lower end of the range of the last several years. Gasoline stocks remained steady, a not particularly unusual development for June, though distillate stocks' 5 million barrel rise was somewhat less than the 9 million barrel average of the previous five years.









1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 527 million barrels as of June 30, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	JUNE			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	7,455	7,209	3.4	7,063	6,895	2.4
Finished leaded motor gasoline*	1,826	2,296	(20.5)	1,794	2,247	(20.2)
Finished unleaded motor gasoline*	5,629	4,913	14.6	5,269	4,648	13.4
Naphtha-jet	212	215	(1.4)	199	197	1.0
Kerosine-jet	1,109	1,106	0.3	1,139	1,068	6.6
Distillate fuel oil	2,779	2,544	9.2	3,010	3,017	(0.2)
Residual fuel oil	1,166	1,377	(15.3)	1,297	1,406	(7.8)
All other oils[4]	4,070	3,891	4.6	3,983	3,794	5.0
Reclassified[5]	- 298	- 293	1.7	- 271	- 288	(5.9)
Total domestic products supplied	16,493	16,049	2.8	16,420	16,089	2.1
Exports	793	642	23.5	840	779	7.8
Total products supplied	17,286	16,691	3.6	17,260	16,868	2.3
Supply:						
Domestic production:						
Crude oil[6]	8,359	8,623	(3.1)	8,392	8,940	(6.1)
Natural gas liquids	1,606	1,504	6.8	1,602	1,596	0.4
Other supply[7]	947	952	(0.5)	916	851	7.6
Total domestic supply	10,912	11,079	(1.5)	10,910	11,387	(4.2)
Imports:						
Crude oil, total	4,835 10/	4,571 10/	5.8	4,143 10/	3,623 10/	14.4
Canadian	582	576	1.0	569	555	2.5
Other	4,253	3,995	6.5	3,574	3,068	16.5
Products, total	1,894	2,213	(14.4)	1,840	1,945	(5.4)
Residual fuel oil	439	712	(38.3)	577	631	(8.6)
Other	1,455	1,501	(3.1)	1,263	1,314	(3.9)
Total imports	6,729	6,784	(0.8)	5,983	5,568	7.5
Total supply	17,641	17,863	(1.2)	16,893	16,955	(0.4)
Stock change, all oils	+ 355	+1,172	XXXX	- 367	+ 87	XXXX
Refinery Operations						
Input to crude oil distillation units	13,307	13,347	(0.3)	12,642	12,617	0.2
Operable capacity	15,621	15,465	1.0	15,635	15,475	1.0
Refinery utilization (%)[8]	85.2%	86.3%	(1.3)	80.9%	81.5%	(0.7)
Crude oil runs	13,139	13,261	(0.9)	12,529	12,505	0.2

Stocks (millions bbls.)	1987		1986[2]	% Change from . . .	
	Jun. 30[9]	May 31[9]	Jun. 30	Previous Month	Year Ago
Crude oil 10/	324.6	323.3	326.7	0.4	(0.6)
Unfinished oils	104.2	104.2r/	108.4	-	(3.9)
Total motor gasoline**	230.9	231.3	230.5	(0.2)	0.2
Finished leaded motor gasoline*	56.6	57.8	74.1	(2.1)	(23.6)
Finished unleaded motor gasoline*	135.7	134.6r/	121.6	0.8	11.6
Naphtha-jet	7.1	7.2	6.6	(1.4)	7.6
Kerosine-jet	38.0	39.1	39.7	(2.8)	(4.3)
Distillate fuel oil	103.7	99.1r/	107.9	4.6	(3.9)
Residual fuel oil	39.1	40.9	42.8	(4.4)	(8.6)
All other oils	167.0	158.8r/	178.5	5.2	(6.4)
Total all oils	1,014.6	1,003.9r/	1,041.1	1.1	(2.5)

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-April, U.S. Department of Energy, May-June, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 11, No. 7

AUGUST 19, 1987

JULY 1987

SUMMARY

Imports in July reached the highest monthly level in over seven years. The result of continuing growth in demand, lower domestic production, and an above-average increase in inventories, the month's 7.6 million B/D of imports exceeded last August's recent-year record by half a million B/D.

Despite year-to-date delivery data indicating growth of only 1.7 percent (see page 2) we estimate that consumption is actually growing by slightly over 2 percent—roughly in line with July's deliveries increase of 2.5 percent or about 400 thousand B/D. Ongoing healthy growth for gasoline and for other oils was aided by distillate deliveries' second month of significant year-to-year increases, following stagnant deliveries earlier in the year. Residual fuel oil deliveries continued to be down compared with last year's fuel-switching-related surge, but were unusually strong in comparison to the recent declining trend. Excluding residual fuel oil's decrease, growth in deliveries for the remaining products was 3.8 percent, somewhat higher than the first-half increase of close to 3 percent.

While demand has continued to grow, domestic crude oil production has been slipping in the past several months—a reflection of crude oil prices that have still been substantially below levels of two years ago, despite some recovery so far this year. Based on data from member and nonmember companies and state agencies, July's estimated production was down almost 1 million B/D from the early part of last year.

Though higher demand and lower domestic production account for the largest part of July's recent-year record for imports, heightened tensions in the Persian Gulf and ready availability of crude and products have also contributed to the increase. During July, inventories rose by 27 million B/D, twice the average of the previous five years, but quite similar to last July's increase. Even so, stocks ended the month at a level towards the lower end of the range of July stocks of the past several years.

Spurred by growing demand, refinery utilization in July almost equalled last August's recent-year record. As in June, a shift of yields towards heavier products was apparent.

PRODUCTS SUPPLIED [1]

Gasoline

DELIVERIES STILL GROWING IN JULY. Deliveries of gasoline continued to move ahead in July at a rate greater than had been expected by many analysts earlier in the year, with the 2.4 percent, 180 thousand B/D increase for July closely in line with the average for the year to date. Though retail prices have risen close to 15 cents since last July, a reflection of crude oil costs that have risen at least as much, they still represent a positive influence on consumption when compared with those before last year's major price decline. In fact, on an inflation-adjusted basis, current prices are about the same as in the early 1970s before the Arab oil embargo, and on a cost-per-mile basis, roughly one fourth lower than at that time.

Unleaded's share of deliveries has remained near 75 percent for the past several months, despite the movement towards mid-grade unleaded and away from leaded regular by numerous refiners and marketers. This seeming slowdown in the penetration of unleaded, however, can be largely explained by seasonal patterns. Unleaded's share often shows slower growth in the first half of the year than in the second, perhaps due to geographic or usage differences between leaded and unleaded. Year to year, however, unleaded's share was up 5.7 percentage points for July, an increase still higher by more than a percentage point than 1986's annual gain.

Distillates

TRANSPORTATION USE MAY BE RECOVERING. In July, for the second month in a row, distillate deliveries rose strongly versus the year-ago period after relatively weak performance earlier in the year. Though the 5.1 percent, 133 thousand B/D increase is larger than the likely underlying trend of only slight growth in

API ESTIMATES

	JULY		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	16.7	2.5	16.4	1.7
Crude oil production[2]	8.2	(5.3)	8.3	(6.2)
otal imports[3]	7.6	10.7	6.2	7.7
Stocks (million bbl)[3]	1,057	(1.2)	na	na

MAY DATA ARE PUZZLING....

The year-to-date increase for total deliveries, shown in this month's estimated balance at 1.7 percent, is, we believe, less than the increase in demand and about half a percentage point lower than would have been calculated without the Department of Energy's recently-released data for May. Those data, particularly for residual fuel oil and for other oils, were significantly lower than API's estimates published in the May *Monthly*. The Department of Energy's figure for residual fuel oil deliveries, for example, was lower even than for May 1985, though indications are that fuel switching so far this year has not entirely reversed the strong increase of 1986. The May Department of Energy data for other oils was equally puzzling since it indicated a decrease in the deliveries of such products as petrochemical feedstocks, in the face of what appears to be quite strong demand.

The comparison of estimates is also clouded by the possibility of further revisions when the final data are released by the Department of Energy. Final 1986 data on deliveries of other oils, for example, included revisions for individual months as large as 200 thousand B/D. However, under the present revision policy, updated information on 1987 deliveries is nearly a year away, since the revised data are not due to be published until mid-1988.

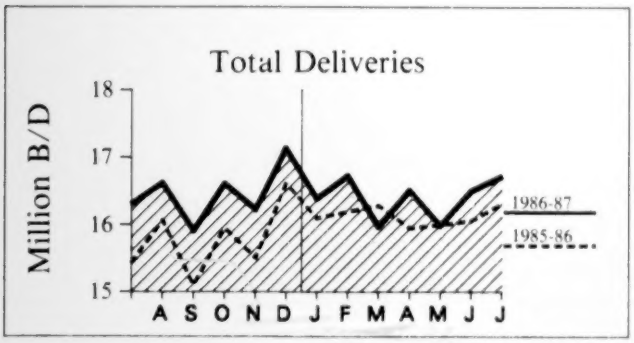
demand, transportation sector usage appears to have been strengthening. Manufacturing and trade shipments have been up about 4 percent so far this year, a gain reflected in June's 5 percent rise in truck traffic. Increased grain exports have been a major contributor to the recent rise in rail traffic, which rose about 8 percent year to year in July. Together, truck and rail usage accounted for roughly 50 to 60 thousand B/D of July's distillate increase. A partially offsetting decline in farm use due to reduced acreage and relatively stable demand in other sectors indicate that overall distillate consumption may be growing at somewhat better than 1 percent.

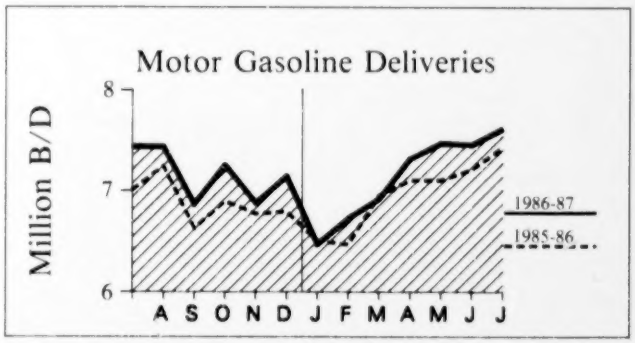
Residual Fuel Oil

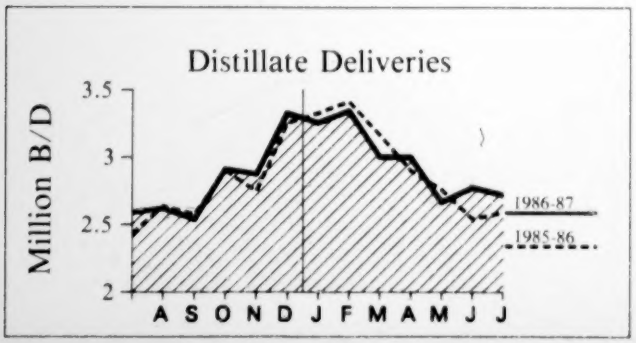
DECLINES FOR MAJOR SECTORS CONTINUE. Continuing its year-to-year decline against the fuel-switching-related strength of last year, residual fuel oil deliveries fell close to 10 percent or 150 thousand B/D versus last July. Though residual fuel oil deliveries rose substantially for much of last year, last July's increase had been particularly strong—up over 40 percent or about 450 thousand B/D. Thus, July deliveries this year were actually not as weak as it might first appear. Unusually hot weather on the East Coast during July—roughly 15 percent warmer than normal—kept the decline in electric utility usage from being larger. In fact, a significant portion of July's deliveries decline may be due to the combined effect of lower domestic bunkering purchases and declines in industrial and other consumption.

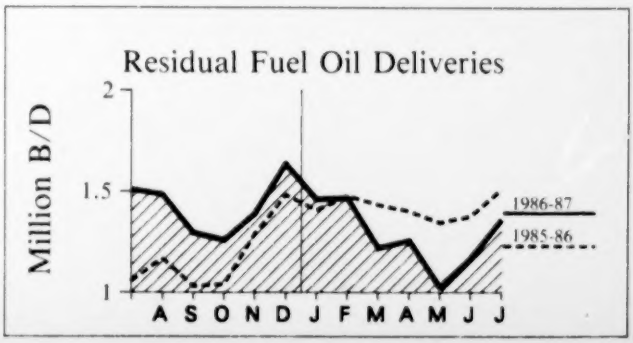
Kerosine Jet Fuel

SMALL DELIVERIES GAIN FALLS SHORT OF TRAFFIC GROWTH. Deliveries of kerosine jet fuel rose a minimal 0.7 percent for July, following a similarly small rise for June. Gains in air traffic have been lessening, with increases of 5 or 6 percent in recent months versus an increase in miles flown last year of almost 12 percent; this is despite a recovery in international traffic from last summer's slump. Though the reduced growth is not enough to account for kerosine jet fuel deliveries' recent weak performance, such discrepancies are not uncommon on a monthly basis and tend to average out over longer periods. For the year to date, miles flown are estimated to be up about 7 percent, so that year-to-date kerosine jet fuel deliveries' over 5 percent increase, though still not quite as large as indicated by traffic growth, is reasonably close.









Other Oils

CHEMICAL DEMAND PROPELS DELIVERIES. Products supplied in the other oils category for July are estimated to be 4,023 thousand B/D, an increase of 4.0 percent from July 1986. This rate of growth is in line with that of the first half of the year. Continued growth in the propane and naphtha markets accounts for much of the increase in this category.

Propane, having registered an estimated 12-15 percent increase over last year, has been able to recover much of the market share temporarily lost to naphtha in June. Naphtha had been last month's favored petrochemical feedstock as a result of the large, export-led increases in the demand for, and prices of, benzene, styrene, toluene and other related products. The continued decline in the value of the dollar as well as fast growth in key Pacific Basin economies have stimulated much of the export demand for these products, prompting large deliveries of naphtha to domestic petrochemical plants. The high naphtha prices, however, have begun to prompt a switch back to propane in July, but naphtha demand remains strong. As a result, strong increases in the joint demand for both of these petrochemical feedstocks has resulted in a growth rate of the "other oils" category twice as much as that for the major products.

Other products in this category have also contributed to the robust growth in this category. After almost one year of stagnant demand, butane has registered sizable increases in demand as a petrochemical feedstock, more than offsetting continued declines in the supply of (and demand for) ethane. In addition, refinery gas has increased an estimated 3 to 3.5 percent over levels of the previous year as a result of increased refinery output of gasoline.

SUPPLY [1/]

Production

DROP FROM EARLY 1986 APPROACHES 1 MILLION B/D. Domestic crude oil production, after remaining in a narrow range earlier in the year, appears to have returned to its previous downward trend in more recent months. Based on data collected from member and nonmember companies as well as from state agencies, July's production is estimated at 8.2 million B/D—down nearly 1 million B/D or over 10 percent from early 1986 and the lowest in ten years. Excluding production from Alaska, which accounted for nearly one fourth of July's output, crude oil production in the remaining states was at the lowest level since the 1950s.

Though drilling activity has increased in the past few months along with crude oil prices, the rise in drilling has hardly been large enough or long enough to have a major effect on crude oil production. July's rig count, for example, was still less than half of that of two years ago when production was holding relatively steady, and given the long lead times between exploration, drilling, and production—on the order of three to six years in some frontier regions or even longer—it can hardly be expected that any effect on production at this point would be significant.

Based on data from annual reports of major companies for 1986, at last year's drilling rates less than half of the crude oil produced was replaced by new reserves. Data on proved reserves in 1987 are unavailable, but, given current exploration levels, reserves have most likely continued to decline so far this year.

Imports

HIGHEST SINCE 1980. Petroleum imports reached the highest level in over seven years in July, rising 10.7 percent or 735 thousand B/D over last July's already high levels to 7.6 million B/D. Though the year-to-year increase is close to the combined rise in demand and drop-off in production, imports in both this July and last exceeded current consumption needs and what would be needed to fulfill typical inventory patterns, as increasing tensions in the Persian Gulf in the past two months have spurred greater buying interest.

Major products shared the increase in imports with crude oil. Gasoline and components were up 150 thousand B/D versus last July, with attractive price differentials between European versus U.S. product raising imports to 546 thousand B/D for the month. Distillate imports rose 82 thousand B/D and residual fuel oil 61 thousand B/D; for residual fuel oil, the increase represented a reversal of past months' declines, a result of above-trend demand during July.

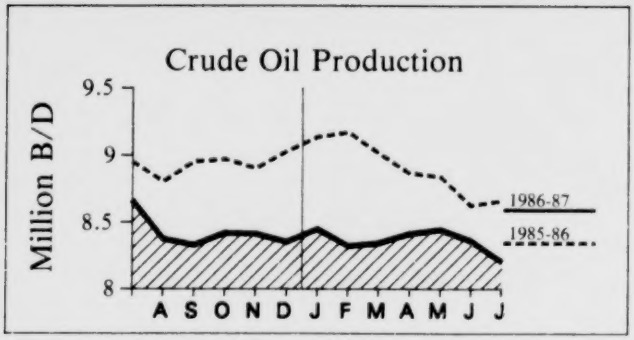
Refinery Operations

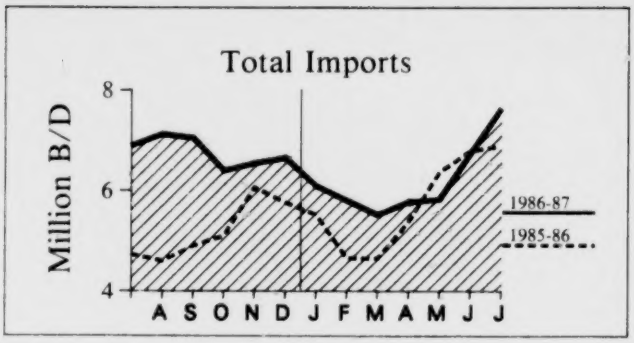
UTILIZATION RATE NEARLY EQUALS RECENT-YEAR RECORD. Propelled by growing demand, input to crude oil distillation units reached its highest level since 1980 in July. Utilization, at 86.7 percent of operable capacity, nearly matched last August's recent-year record, which was based on a slightly lower capacity figure than this July's. As in June, refinery production increases indicate a heavier crude slate than last year, with residual fuel oil output up over 6 percent but gasoline and distillate up a lesser 2 percent and half a percent, respectively.

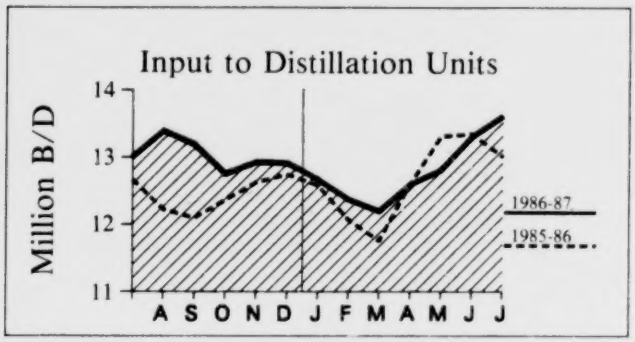
Inventories

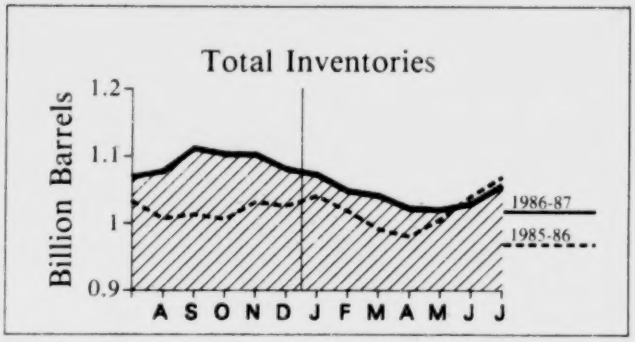
STOCKS BUILD MORE THAN SEASONALLY FOR THE MONTH. Total stocks rose 27 million barrels during July, twice the recent-year average for the month. About half the rise was accounted for by increases in crude oil and distillate stocks. Though crude stocks rose only 3 million barrels during the month, it was the first increase since March. Distillate stocks, in line with historical seasonal patterns, increased 11 million barrels in anticipation of the heating season still several months away.

Despite gasoline production near the highest levels in years and strong gasoline imports, high deliveries drew down stocks of that product slightly during the month. And even with July's greater-than-average increase, total inventories of crude and product ended the month 12 million barrels below last July's level and towards the lower end of the range of July stocks of the past several years.









1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 530 million barrels as of July 31, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	JULY			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	7,616	7,436	2.4	7,143	6,974	2.4
Finished leaded motor gasoline*	1,876	2,254	(16.8)	1,817	2,248	(19.2)
Finished unleaded motor gasoline*	5,740	5,182	10.8	5,326	4,726	12.7
Naphtha-jet	210	235	(10.6)	197	202	(2.5)
Kerosine-jet	1,099	1,091	0.7	1,129	1,072	5.3
Distillate fuel oil	2,725	2,592	5.1	2,964	2,955	0.3
Residual fuel oil	1,358	1,508	(9.9)	1,278	1,421	(10.1)
All other oils[4]	4,023	3,869	4.0	3,952	3,805	3.9
Reclassified[5]	- 318	- 423	(24.8)	- 276	- 308	(10.4)
Total domestic products supplied	16,713	16,308	2.5	16,387	16,121	1.7
Exports	759	685	10.8	800	765	4.6
Total products supplied	17,472	16,993	2.8	17,187	16,886	1.8
Supply:						
Domestic production:						
Crude oil[6]	8,204	8,660	(5.3)	8,343	8,899	(6.2)
Natural gas liquids	1,549	1,507	2.8	1,595	1,583	0.8
Other supply[7]	977	847	15.3	931	851	9.4
Total domestic supply	10,730	11,014	(2.6)	10,869	11,333	(4.1)
Imports:						
Crude oil, total	5,325[10/]	4,674[10/]	13.9	4,316[10/]	3,776[10/]	14.3
Canadian	617	562	9.8	587	556	5.6
Other	4,708	4,112	14.5	3,729	3,220	15.8
Products, total	2,300	2,216	3.8	1,888	1,985	(4.9)
Residual fuel oil	734	673	9.1	578	637	(9.3)
Other	1,566	1,543	1.5	1,310	1,348	(2.8)
Total imports	7,625	6,890	10.7	6,204	5,761	7.7
Total supply	18,355	17,904	2.5	17,073	17,094	(0.1)
Stock change, all oils	+ 883	+ 911	XXXX	- 114	+ 208	XXXX
Refinery Operations						
Input to crude oil distillation units	13,608	13,009	4.6	12,799	12,675	1.0
Operable capacity	15,692	15,475	1.4	15,651	15,475	1.1
Refinery utilization (%)[8]	86.7%	84.1%	3.1	81.8%	81.9%	(0.1)
Crude oil runs	13,451	12,917	4.1	12,675	12,565	0.9

Stocks (millions bbls.)	1987		1986[2]	% Change from . . .	
	July 31[9]	June 30[9]	July 31	Previous Month	Year Ago
Crude oil 10/	327.8	324.4r/	341.8	1.0	(4.1)
Unfinished oils	100.7	104.2	104.9	(3.4)	(4.0)
Total motor gasoline**	229.4	231.0r/	224.0	(0.7)	2.4
Finished leaded motor gasoline*	54.6	56.6	72.7	(3.5)	(24.9)
Finished unleaded motor gasoline*	135.6	135.7	117.2	(0.1)	15.7
Naphtha-jet	7.6	7.1	6.1	7.0	24.6
Kerosine-jet	40.1	38.0	42.5	5.5	(5.6)
Distillate fuel oil	114.5	103.8r/	118.9	10.3	(3.7)
Residual fuel oil	41.7	39.0r/	40.4	6.9	3.2
All other oils	195.1	182.0r/	190.7	7.2	2.3
Total all oils	1,056.9	1,029.5r/	1,069.3	2.7	(1.2)

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-May, U.S. Department of Energy, June-July, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 11, No. 8

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AUGUST 1987

SUMMARY

August deliveries barely matched those of a year ago, though growth in consumption is still estimated at around 2 percent. Both gasoline's and kerosine jet fuel's slight increases belied indications of larger gains in consumption based on motor vehicle and airline traffic growth. Distillate's small increase, however, was in line with recent usage trends, and residual fuel oil's drop continued the pattern that has existed for most of this year due to a reversion to other fuels after last year's jump. Deliveries of other oils, too, were only about equal to last year's. Total deliveries' weak performance in August may in part have been due to hesitancy on the part of some distributors and end users to hold stocks while prices were weakening.

As noted last month, the Department of Energy's May deliveries data appeared unusually low. However, the Department's recently-released June data show much stronger deliveries—so much so, that when data for May and June are combined, Department of Energy and API two-month averages of total deliveries are within about half a percent of each other. As a result, the seven months' comparison for total deliveries, noted last month as possibly understating consumption trends, has now risen to 1.9 percent, more in line with indicated consumption growth and contrasting with August's weak performance.

Excluding residual fuel oil's swings, August's 1.0 percent rise for deliveries of the remaining products is also at variance with results for the previous seven months, which showed little, if any, slowdown from the second half of last year. During the last half of 1986, the growth in product deliveries other than residual fuel oil nearly doubled the 1.6 percent rate of the first half with an increase of 3 percent, in response to lower prices. So far this year, even including August's below-trend deliveries, the corresponding growth rate has been nearly as large—2.8 percent. Excluding August, the rate rises to 3.1 percent.

The decline in lower 48 crude oil production since early last year is estimated to have passed the 1 million B/D mark in August, a result of the large decline in the drilling of new wells and reduced upkeep of existing wells during the past year and a half. Even with the inclusion of Alaskan production, which has been relatively steady this year, total U.S. production has fallen 11 percent in the past 18 months.

Imports declined only slightly from July's recent-year record, to 7.4 million B/D, the continued higher level the result of strong imports for both crude oil and light products. Refinery utilization as a percent of operable capacity continued in the high 80s, as well as the emphasis on heavier product yields. Inventories, which had already been building from below-average levels since June, rose another 24 million barrels during the month. On a days supply basis, the increases of the past three months have brought inventories back to a level similar to that of August levels of recent previous years.

PRODUCT SUPPLIED [1/]

Motor Gasoline

VEHICLE MILES INDICATE GROWTH OF OVER 2 PERCENT.

Deliveries of motor gasoline in August rose only 0.7 percent —below the trend of recent months and a likely understatement of actual consumption growth as indicated by data on miles travelled. These data show year-to-year increases in motor vehicle travel averaging about 4 percent of late, but offsetting improvements in the vehicle fleet's efficiency have held gasoline consumption growth to less than this. Though the rate of increase in mile-per-gallon ratings of new vehicles has slowed somewhat in the last several years, the gap between the efficiency of new vehicles and that of the ones being replaced is still substantial, and overall fleet efficiency continues to improve at an estimated 1 to 2 percent annual rate. Thus, the growth in miles travelled suggests an increase in gasoline consumption in the neighborhood of 2.5 percent, essentially in agreement with the year-to-date deliveries increase of 2.3 percent.

API ESTIMATES

	AUGUST		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	16.6	(0.3)	16.5	1.6
Crude oil production[2/]	8.2	(2.6)	8.3	(6.0)
Total imports[3/]	7.4	3.3	6.3	6.8
Stocks (million bbl)[3/]	1,075	(0.2)	na	na

Unleaded's share of gasoline deliveries increased to over 77 percent in August after hovering near the 75 percent mark for several months, and represented a gain over last August of more than 8 percentage points. Marketing of midgrade unleaded has been proceeding as the supply of lead rights under the government's phasedown program has declined. As of the end of June, less than one fifth of the lead rights remained that had been accumulated by the end of 1985.

Distillates

SLIGHT GROWTH CONTINUES. Distillate deliveries for August rose 0.8 percent over those of a year ago, and the slight growth in consumption appears to be continuing. Transportation use has been the main contributor to that growth, with truck traffic recently rising about 5 percent year to year and rail traffic running about 9 percent ahead of last year. Industrial activity, up 3 to 4 percent on a year-to-year basis in recent months, has also provided a minor increment to demand. However, other sectors have been experiencing some partially offsetting declines. Due to reduced acreage this year, farm use has declined, and with housing starts and nonresidential construction both down, off-highway use has been cut as well.

Residual Fuel Oil

THIS YEAR'S DROP FALLS SHORT OF LAST YEAR'S GAIN. For August, residual fuel oil deliveries continued the year-to-year decline that has taken place since early in the year. Despite unusually hot weather in the Southeast, which may have lessened residual fuel oil's decline there because of the resulting demand for electricity, deliveries as a whole fell 13.7 percent or over 200 thousand B/D.

This year's decline in deliveries, though substantial, has not been as sharp as last year's rise. So far this year, deliveries have typically been running higher than in 1985, a year which turned out to be the end of an eight year, uninterrupted decline. This year's year-to-date deliveries have been about 7 percent higher than for two years ago, due mainly to electric utility usage that has remained above 1985 levels. Bunkering and industrial use have returned to levels near those of two years ago, as bunker purchases shifted to nondomestic sources and the fuel switching of last year was reversed.

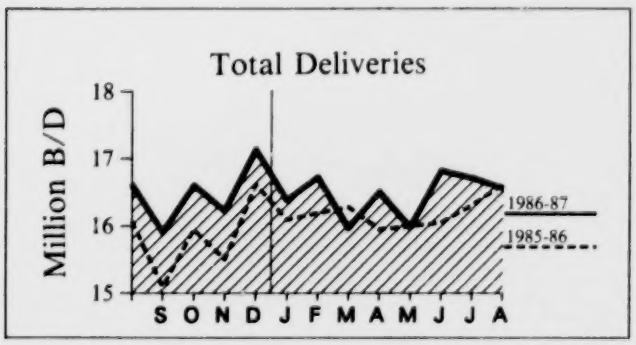
Kerosine Jet Fuel

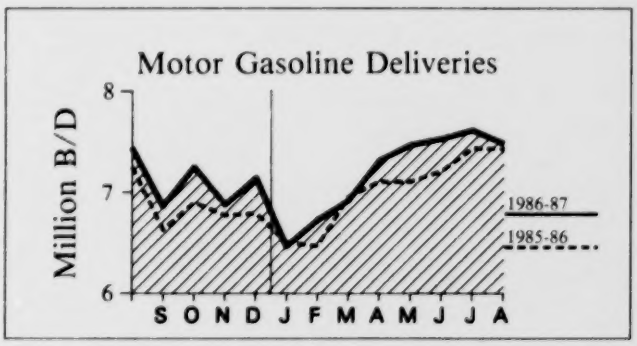
HIGHER LOAD FACTOR HOLDS TRAFFIC RISE. Revenue passenger miles have been showing large gains in recent months—rising over 12 percent in July, for example, the latest data available. However, these increases, in part due to a substantial recovery in international travel from last summer's depressed levels, have translated into a lesser increase in aircraft miles flown as load factors have risen from last summer's lower-than-usual rates. The increase in miles flown is estimated to be only about 5 percent, but even this exceeds August's 1 percent rise in kerosine jet fuel deliveries, suggesting that kerosine jet fuel consumption growth is continuing to run ahead of what is indicated by deliveries data.

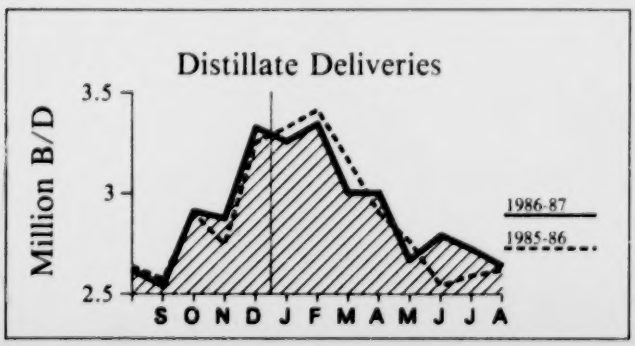
Other Oils

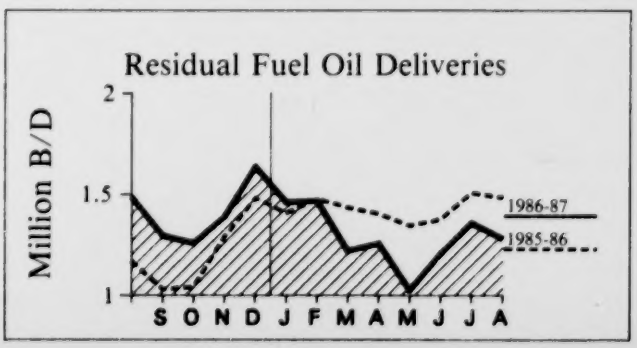
LITTLE CHANGE FROM AUGUST A YEAR AGO. Products supplied in the other oils category for August are estimated to be 4,003 thousand B/D, slightly lower than last month's estimate of 4,023 thousand B/D as well as that of the 4,023 thousand B/D also estimated for August 1986. The apparent weakness in deliveries is generally spread across the spectrum of all of the products within the category and, as with other products, may understate actual consumption for August.

Deliveries of naphtha and gasoil, which had been increasing at a brisk pace for much of this year, appear to have level-









ed off or even declined slightly in August. Propane, which had recently experienced modest increases in demand as a petrochemical feedstock due to its price competitiveness, also experienced some weakness in August. A slowdown in demand for petrochemicals for ethylene feedstock is responsible for much of the weakness in this product group.

In contrast to the significant seasonal upswing usually observed in August, asphalt and road oil deliveries are estimated have risen only slightly. However, the small change reflects the strong surge in July deliveries resulting from delays in passage of the Federal highway bill rather than weak August demand as such. Estimates for refinery gas are also unchanged or declining from last month as a result of steady rates of motor gasoline production.

It should be noted that the drop in deliveries from last year's levels is largely the result of unusually high August, 1986 deliveries as published by the Department of Energy. Last August's statistics include a 714 thousand B/D estimate for refinery gas, an all-time high for that product and 50-75 thousand B/D above the norm. When corrected for this and other aberrations, the other oils category would have shown a year-to-year increase of 1.0 to 1.5 percent.

SUPPLY [1/]

Production

LOWER 48 DECLINE PASSES 1 MILLION BARRELS PER DAY.

The production decline in the lower 48 in August passed the 1 million B/D mark compared with early last year, a 14 percent drop within a year and a half. Over the past 6 months, production outside Alaska has been declining at an annual rate of about 7 percent—less than the 16 percent annual rate of the second and third quarters of 1986 but still enough to amount to a loss of about 450 thousand B/D per year. Earlier this year, the production decline in the lower 48 had temporarily slowed.

In Alaska, completion of new facilities at Lisburne and Kuparuk late last year have helped to boost production this year by an average 80 thousand B/D in year-to-year comparisons, and since that time Alaskan production has been relatively steady. Even with the inclusion of Alaska's gain, U.S. crude oil production has fallen 11 percent since early 1986.

Natural gas liquids production in August is estimated to have risen almost 10 percent over last August's depressed level, or by 140 thousand B/D. However, competition from low crude oil prices last year had discouraged the extraction of liquids from natural gas, causing production to drop. When compared with levels prior to last year's crude oil price slide, August's natural gas liquids gain is seen to be a recovery to 1985 production levels rather than an indication of new growth.

Imports

DOWN ONLY SLIGHTLY FROM JULY'S RECENT-YEAR RECORD.

Total imports edged downwards from July's recent-year record in August, though crude oil imports were actually even slightly higher than in the prior month. Persian Gulf tensions, combined with ready availability of crude oil from OPEC producers, have helped to spur imports above current needs in the past several months. Nevertheless, the bulk of August's 7.4 million B/D in imports went towards filling the gap between falling domestic production and generally rising consumption.

Though crude oil imports were almost 550 thousand B/D higher than last August—already a high month by recent historical standards—product imports declined about 290 thousand B/D, mainly because of a drop in residual fuel oil imports from an unusually high level a year ago. Imports of finished gasoline and blending components remained strong in August, reaching 553 thousand B/D, a 153 thousand B/D increase from a year ago. Distillate imports, though down about 63 thousand B/D from last August, remained at a higher-than-average level for the month as well.

Refinery Operations

UTILIZATION RATE CONTINUES IN HIGH 80s FOR AUGUST.

Percentage refinery utilization continued in the high 80s in August, slipping 0.6 percentage points from last year only because of somewhat greater distillation capacity this year; input to distillation units actually increased by a full percentage point from a year ago.

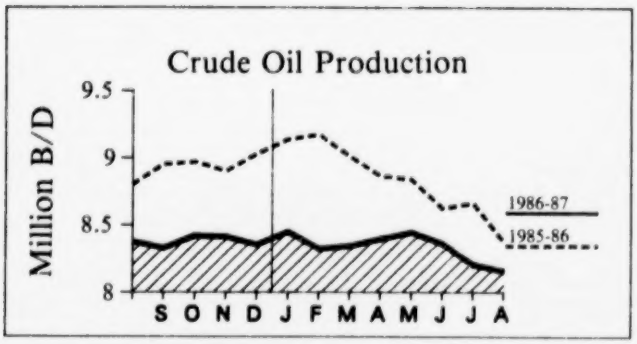
Despite the increase in input, output of most major light products fell. Gasoline production declined 2 percent and distillate, almost 8 percent from last August, in response to the nearly flat deliveries for both for the month. Kerosine jet fuel production, however, rose over 10 percent while residual fuel oil output rose nearly 4 percent, edging out imports of that product in a shrinking market.

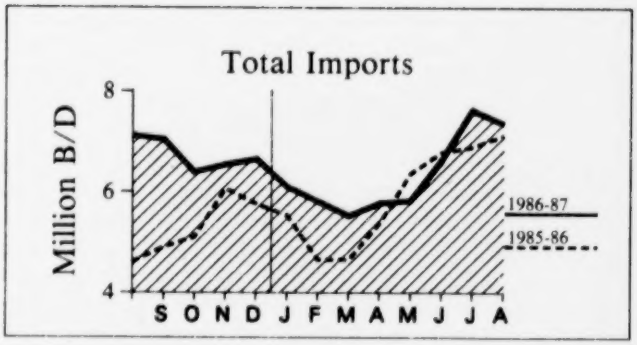
Inventories

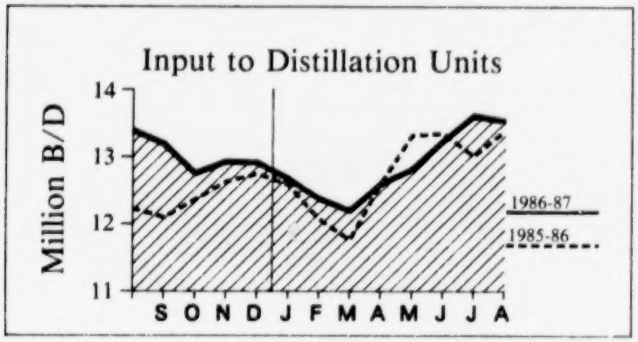
STOCKS RISE FOR THIRD MONTH FROM EARLIER LOW LEVELS.

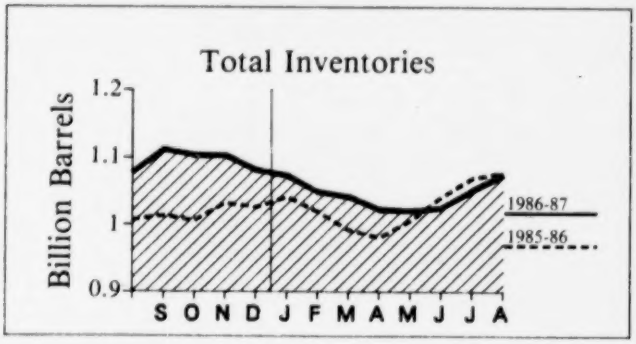
Continuing the increases of June and July, inventories rose another 24 million barrels in August as continued high imports, much of which were loaded in July, arrived at U.S. ports. About 9 million barrels of the increase was accounted for by a seasonal rise for distillates. Though distillate stocks at the end of the month were 14 million barrels lower than last year, at 124 million barrels, they were still 10 million barrels higher than two years ago and not out of line with historical seasonal patterns. Gasoline stocks declined 4 million barrels while crude oil stocks rose 6 million barrels.

The increase from below-average levels during the last several months has brought total inventories, as measured in terms of days of supply, to 65 days, a typical level for August in recent years but still well below the level of the early 1980s.









1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 532 million barrels as of August 31, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	AUGUST			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	7,484	7,435	0.7	7,196	7,033	2.3
Finished leaded motor gasoline*	1,702	2,297	(25.9)	1,808	2,254	(19.8)
Finished unleaded motor gasoline*	5,782	5,138	12.5	5,388	4,779	12.7
Naphtha-jet	242	188	28.7	205	200	2.5
Kerosine-jet	1,176	1,164	1.0	1,134	1,083	4.7
Distillate fuel oil	2,641	2,621	0.8	2,925	2,913	0.4
Residual fuel oil	1,281	1,485	(13.7)	1,284	1,429	(10.1)
All other oils[4]	4,003	4,023	(0.5)	3,968	3,833	3.5
Reclassified[5]	- 267	- 298	(10.4)	- 261	- 306	(14.7)
Total domestic products supplied	16,560	16,618	(0.3)	16,451	16,185	1.6
Exports	662	868	(23.7)	766	778	(1.5)
Total products supplied	17,222	17,486	(1.5)	17,217	16,963	1.5
Supply:						
Domestic production:						
Crude oil[6]	8,155	8,374	(2.6)	8,304	8,832	(6.0)
Natural gas liquids	1,585	1,445	9.7	1,592	1,565	1.7
Other supply[7]	897	808	11.0	960	845	13.6
Total domestic supply	10,637	10,627	0.1	10,856	11,242	(3.4)
Imports:						
Crude oil, total	5,354[10/]	4,809[10/]	11.3	4,433[10/]	3,908[10/]	13.4
Canadian	679	571	18.9	611	558	9.5
Other	4,675	4,238	10.3	3,822	3,350	14.1
Products, total	1,997	2,308	(13.5)	1,903	2,026	(6.1)
Residual fuel oil	507	793	(36.1)	575	657	(12.5)
Other	1,490	1,515	(1.7)	1,328	1,369	(3.0)
Total imports	7,351	7,117	3.3	6,336	5,934	6.8
Total supply	17,988	17,744	1.4	17,192	17,176	0.1
Stock change, all oils	+ 766	+ 258	XXXX	- 25	+ 213	XXXX
Refinery Operations						
Input to crude oil distillation units	13,530	13,392	1.0	12,885	12,766	0.9
Operable capacity	15,692	15,430	1.7	15,662	15,469	1.2
Refinery utilization (%)[8]	86.2%	86.8%	(0.7)	82.3%	82.5%	(0.2)
Crude oil runs	13,380	13,287	0.7	12,775	12,657	0.9

Stocks (millions bbls.)	1987		1986[2]	% Change from ...	
	Aug. 31[9]	July 31[9]	Aug. 31	Previous Month	Year Ago
Crude oil [10/]	333.8	327.8	332.7	1.8	0.3
Unfinished oils	103.5	100.7	97.8	2.8	5.8
Total motor gasoline**	225.7	229.5r/	221.6	(1.7)	1.9
Finished leaded motor gasoline*	53.5	54.6	69.4	(2.0)	(22.9)
Finished unleaded motor gasoline*	134.0	135.5r/	118.0	(1.1)	13.6
Naphtha-jet	6.8	7.6	6.6	(10.5)	3.0
Kerosine-jet	40.9	40.1	41.9	2.0	(2.4)
Distillate fuel oil	123.8	114.5	137.7	8.1	(10.1)
Residual fuel oil	42.8	41.8r/	41.3	2.4	3.6
All other oils	197.5	189.1r/	197.7	4.4	(0.1)
Total all oils	1,074.8	1,051.1r/	1,077.3	2.3	(0.2)

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-June, U.S. Department of Energy, July-August, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

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Washington, D.C. 20005

Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 11, No. 9

OCTOBER 14, 1987

SEPTEMBER 1987

SUMMARY

A 3.7 percent rise in September deliveries brought the third quarter increase to 2.6 percent, with growth in gasoline, distillate, and "other oils" deliveries the main contributors to the quarter's rise. For the quarter, increases in miles travelled helped gasoline deliveries to continue to grow at over 2 percent, while distillate deliveries' increase contrasted with the first half's slight decline. Residual fuel oil continued to decline versus last year, and kerosine jet fuel's lesser growth for the quarter reflected slower air traffic increases versus earlier in the year.

Drilling and well servicing, though experiencing some recovery in recent months, have been well below levels needed to slow the decline in domestic production; third quarter crude oil production fell to less than 8.2 million B/D, 1 million B/D below the level of early 1986. September's imports, though edging down from previous months' recent-year highs, still contributed to the highest quarterly imports since 1980. Paralleling crude oil imports, refinery input dropped slightly in September from previous months, but still exceeded that of last September by close to 1 percent. Total inventories rose about 15 million barrels during the month, in line with typical patterns but contrasting with a recent above-normal increase.

PRODUCT SUPPLIED [1/]

Gasoline

DEMAND CONTINUES TO RISE DESPITE SLOW INCOME GROWTH. Counterbalancing August's weak performance, gasoline deliveries in September rose over 4 percent year to year. For the quarter as a whole, deliveries have risen 2.3 percent, about in line with consumption growth as indicated by increases in miles travelled when offset by improvements in the fleet's average fuel efficiency. This continued growth comes despite weakening in income gains this year. The year-to-year rise in real disposable income for the third quarter is estimated to be only about half a percent, and not much more than that for the year to date, in contrast with a 4 percent gain for last year as a whole. That gasoline deliveries' growth rate has slackened only slightly from last year's average 3 percent rate can be attributed to the continued impact of prices still roughly one fourth lower than two years ago, before last year's major price decline.

After rising for much of the year, retail prices declined slightly from August's levels due partly to a decline in crude oil prices and partly to normal seasonal patterns. Even so, the 11 to 12 cent-per-gallon increase since last September is somewhat less than the increase in refiner's crude oil costs, estimated at about 14 cents per gallon.

Distillates

THIRD QUARTER'S INCREASE CONTRASTS WITH FIRST HALF. Third quarter distillate deliveries rose 5.4 percent versus a year ago, primarily because of September's unusually large rise of nearly 11 percent. Part of September's strong increase is actually the result of year-ago deliveries which were roughly 100 thousand B/D below trend, as some distributors and end users apparently chose to rely on supplies purchased earlier. Even after adjusting for this, this September's deliveries were higher than indicated by consumption trends, and the quarter's growth rate would still work out to about 4 percent — in contrast with a slight decline in the first half of this year and about twice the estimated increase in actual consumption for the quarter.

Some revival in transportation usage may be aiding this growth. Truck traffic, after rising only about 1 percent year to year in the first half of 1987, has been running about 5 percent ahead during the third quarter. Rail traffic growth, too, has risen from less than 3 percent in the first half to about 9 percent for the most recent three months, with increases in grain and coal shipments contributing to the rise. Together these sectors may have added 60 to 80 thousand B/D to distillate deliveries during the third quarter.

The farm sector's partially-offsetting decline may be less than implied by the 7 percent drop in acreage this year; major

API ESTIMATES

	SEPTEMBER		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	16.5	3.7	16.5	2.1
Crude oil production[2/]	8.1	(2.9)	8.3	(5.6)
Total imports[3/]	6.9	(1.6)	6.4	5.3
Stocks (million bbl)[3/]	1,069	(3.9)	na	na

crop production is estimated to be down only about 2 percent as a result of more intensive farming of the remaining acreage and the vagaries of weather. The decline in farm use, combined with weakening off-highway use and small volume changes for other sectors, may have brought total distillate consumption growth in the third quarter down to about 2 percent. That year-to-date deliveries have risen about 2 percentage points less than the 7 percent increase for miles flown is at least partially explained by continued additions to the fleet of new, more fuel-efficient aircraft, which have recently been raising fleet efficiency by about one percent per year.

Residual Fuel Oil

ELECTRIC UTILITY USE CONTINUES DROP VERSUS LAST YEAR.

Residual fuel oil deliveries fell 13.1 percent for the third quarter and 11 percent for September, continuing this year's reversal of last year's price-induced switching to residual fuel oil. The decline came despite unusually hot weather early in the quarter in regions of the East where much of the electric utility sector's residual fuel oil consumption takes place.

As with last year's rise in deliveries, the bulk of this year's decline is accounted for by electric utilities. For the first half, while petroleum's already-small share of energy input to utilities fell to less than 5 percent, nuclear generation rose nearly 13 percent to gain over a point-and-a-half in its share of generation, which now is nearly 18 percent. Increases in natural gas and coal usage slightly exceeded the 3 percent growth in total generation, while hydropower output was reduced.

Kerosine Jet Fuel

LOWER TRAFFIC GROWTH SLOWS GAIN IN DELIVERIES.

The third quarter's growth in kerosine jet fuel deliveries, down to 3.1 percent from the first half's 6 percent rise, mostly reflects the slowing in air traffic gains in the most recent months of this year. During the first half, about 8 percent more miles were flown than in the first six months of 1986; the third quarter's increase is estimated to be only about 5

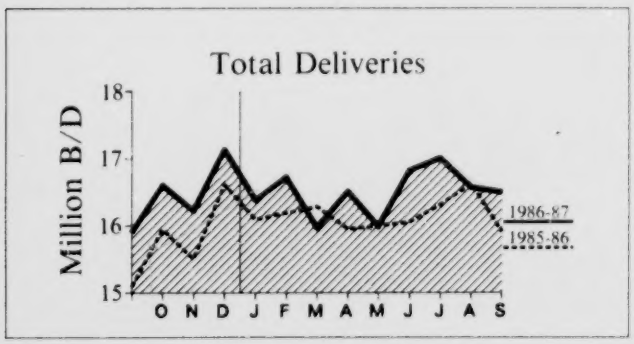
Other Oils

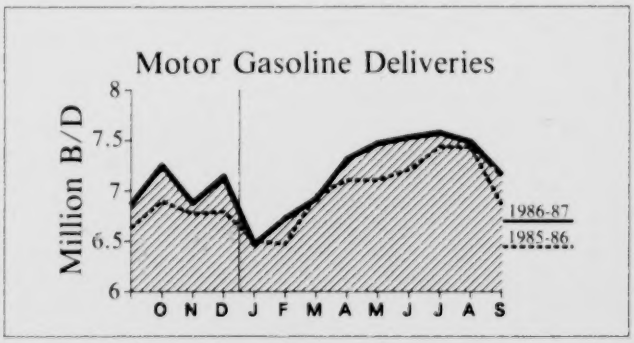
DELIVERIES SHOW CONTINUED STRENGTH IN THIRD QUARTER.

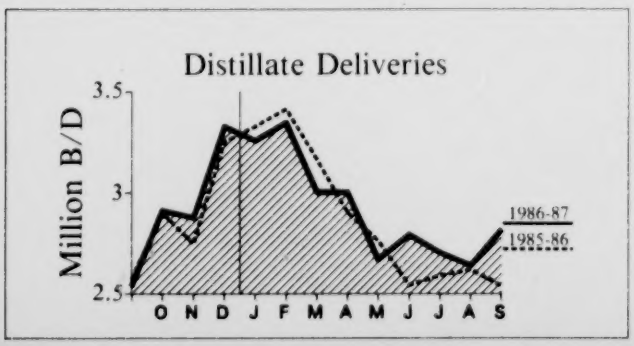
Products supplied in the other oils category for September are estimated to be 4,184 thousand B/D, up 4.5 percent from last month's estimate of 4,003 thousand B/D but slightly lower than the revised EIA estimate of 4,195 thousand B/D for September 1986. In particular, the petrochemical feedstock markets have recovered significantly from the weak August deliveries, led by advances in the olefin and naphtha markets. However, lower summer harvests slightly reduced the use of propane as a crop-drying fuel, especially in the tobacco industry. In other markets, the asphalt and road oil group, having displayed unusual volatility earlier in the year due to delays in passage of the Federal highway bill, appears to have settled into a more normal pattern for this time of year, contributing to the upward trend. Consistent with seasonal patterns, estimates of refinery gas production are slightly lower than for August as a result of a decline in gasoline production.

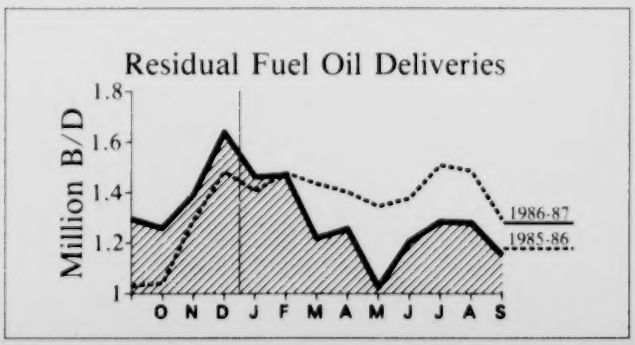
As in the previous month, the apparent year-to-year decline in September deliveries of other oils is largely attributable to last year's unusually high estimates for many of the products in this category, especially refinery gas. A correction for these aberrations would have resulted in a year-to-year increase of approximately 2-3 percent, more in line with the third quarter and year-to-date results.

The third quarter results reflect continued strength in deliveries of products in the other oils category. Average









deliveries for the quarter are estimated to be 4,154 thousand B/D, which represents a 5.5 percent increase over the 3,939 thousand B/D now estimated for the second quarter as well as a 3.2 percent increase from the 4,027 thousand B/D of the third quarter of 1986. Despite the volatility in key products such as refinery gas and asphalt and road oil, the results indicate that deliveries of products in the other oils category this year are continuing to grow at rates significantly higher than that of the major petroleum products.

SUPPLY [1/]

Production

PRODUCTION DOWN DESPITE SOME REVIVAL IN ACTIVITY. Domestic crude oil production continued to decline in the third quarter. Based on data from API member companies, nonmembers, and state agencies, the quarter's production is estimated to have averaged less than 8.2 million B/D, another new quarterly low for the past ten years. That lower 48 production has continued to decline—down to 6.2 million B/D for the quarter from close to 7.3 million B/D early last year—indicates that the recent partial revival in drilling and well servicing has been well below levels needed to slow the decline in domestic production. Rig activity, though up by roughly half from earlier this year, is still down by over 40 percent from its level of two years ago. Well servicing, necessary to slow the production decline of the over-one-half-million producing oil wells in the U.S., recently jumped by over 30 percent from year-ago-levels — but the gain was only about half of what would have been needed to return to the level of well servicing of two years ago.

Imports

MONTH SLIPS BUT QUARTER SETS RECENT-YEAR HIGH. Imports in September slipped somewhat from the recent-year highs of the previous two months, and compared with last September's unusually high levels, actually declined slightly year to year. However, the month's 6.9 million B/D of imports was still strong by any other measure, up by over 40 percent, for example, from September levels of two years ago; September's imports helped to bring the total for the quarter to the highest level since 1980. Roughly 200 thousand B/D of the quarter's imports went towards inventory building at close to twice the seasonal norm, but by far the bulk went towards meeting current demand and replacing lost domestic production.

Product imports continue to show more strength for light products than for heavy. Imports of gasoline and components, slipping from August's high level, still rose 96 thousand B/D, or 25.5 percent, over last September to 472 thousand B/D. Distillate imports were also up 55 thousand B/D but residual fuel oil experienced a 145 thousand B/D decline.

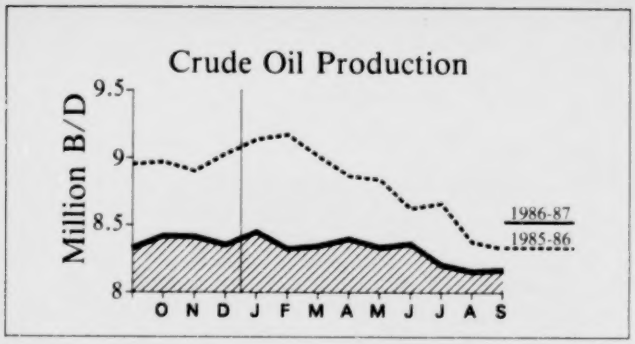
Refinery Operations

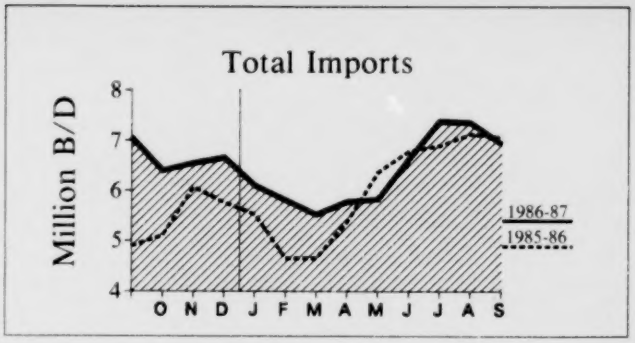
ACTIVITY CONTINUES TO EXCEED YEAR AGO. The slippage in imports in September from the level of the prior two months was paralleled in refinery activity for the month. Input to distillation units was down roughly 250 thousand B/D from the July-August average, but still exceeded last September's by about 110 thousand B/D or close to 1 percent. Gasoline yields recovered somewhat from the below-average levels of the past several months, with production almost equalling the 6.9 million B/D of a year ago. Largely because last year's distillate production was unusually strong—rising almost 9 percent for last year's third quarter despite only slight growth in demand—this year's production continues to show year-to-year declines, including the nearly 2 percent decrease for September to 2.7 million B/D. Residual fuel oil production, however, rose versus last September by 2 percent to about 870 thousand B/D.

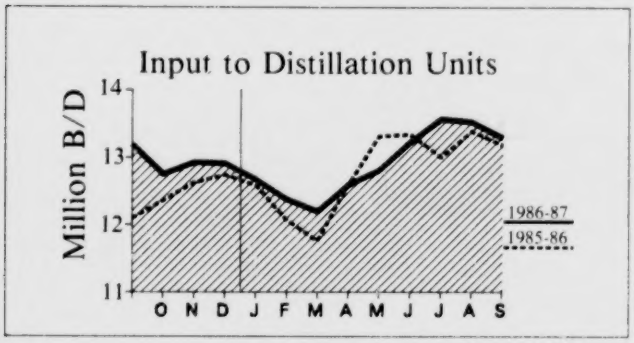
Inventories

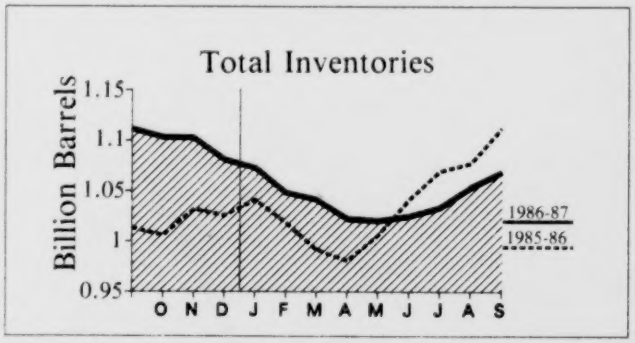
SEPTEMBER'S RISE NORMAL BUT QUARTER EXPERIENCES BUILD. Total inventories rose 15 million barrels in September, roughly in line with the average increase of the previous five years—but in contrast with recent stockbuilding which brought the rise for the quarter to nearly twice the historical average. Crude oil stocks remained in the 330 to 340 million barrel range they have maintained for much of the past two years. Gasoline and distillate stocks' respective 4 million and 5 million barrel increases were also roughly in line with typical seasonal patterns.

Though last September, distillates stocks were 24 million barrels higher than this September because of an increase in refinery output well above the increase in demand, stocks this September still exceeded those of two years ago by 11 million barrels. In any event, inventories typically provide only a small portion of the heating season's supplies. For last season, less than 8 percent of October-through-March deliveries were supplied from inventories; 87 percent came from current refinery production, and the remainder from net imports. With refinery capacity up slightly from last year and product imports continuing to be available, the availability of distillate supplies from refineries, imports, and inventories appears adequate to meet likely ranges of demand this season, even should weather be colder than normal.









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2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 534 million barrels as of September 30, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	SEPTEMBER			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[3R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	7,159	6,864	4.3	7,190	7,014	2.5
Finished leaded motor gasoline*	1,612	2,051	(21.4)	1,783	2,232	(20.1)
Finished unleaded motor gasoline*	5,547	4,813	15.3	5,407	4,782	13.1
Naphtha-jet	217	199	9.0	208	200	4.0
Kerosine-jet	1,180	1,122	5.2	1,142	1,087	5.1
Distillate fuel oil	2,817	2,540	10.9	2,913	2,872	1.4
Residual fuel oil	1,153	1,296	(11.0)	1,262	1,415	(10.8)
All other oils[4]	4,184	4,195	(0.3)	4,020	3,872	3.8
Reclassified[5]	- 219	- 307	(28.7)	- 240	- 306	(21.6)
Total domestic products supplied	16,491	15,909	3.7	16,495	16,154	2.1
Exports	670	714	(6.2)	746	771	(3.2)
Total products supplied	17,161	16,623	3.2	17,241	16,925	1.9
Supply:						
Domestic production:						
Crude oil[6]	8,084	8,328	(2.9)	8,285	8,776	(5.6)
Natural gas liquids	1,600	1,468	9.0	1,597	1,555	2.7
Other supply[7]	1,046	927	12.8	936	854	9.6
Total domestic supply	10,730	10,723	0.1	10,818	11,185	(3.3)
Imports:						
Crude oil, total	4,936[10/]	4,984[10/]	(1.0)	4,476[10/]	4,026[10/]	11.2
Canadian	678	573	18.3	625	560	11.6
Other	4,258	4,411	(3.5)	3,851	3,466	11.1
Products, total	1,996	2,059	(3.1)	1,901	2,030	(6.4)
Residual fuel oil	496	641	(22.6)	560	656	(14.6)
Other	1,500	1,418	5.8	1,341	1,374	(2.4)
Total imports	6,932	7,043	(1.6)	6,377	6,056	5.3
Total supply	17,662	17,766	(0.6)	17,195	17,241	(0.3)
Stock change, all oils	+ 501	+1,143	XXXX	- 46	+ 316	XXXX
Refinery Operations						
Input to crude oil distillation units	13,303	13,191	0.8	12,927	12,813	0.9
Operable capacity	15,692	15,435	1.7	15,667	15,466	1.3
Refinery utilization (%)[8]	84.8%	85.5%	(0.8)	82.5%	82.8%	(0.4)
Crude oil runs	13,216	13,097	0.9	12,822	12,705	0.9

Stocks (millions bbls.)	1987		1986[2]	% Change from ...	
	Sep. 30[9]	Aug. 31[9]	Sep. 30	Previous Month	Year Ago
Crude oil [10/]	334.3	333.2r/	337.8	0.3	(1.0)
Unfinished oils	103.3	103.9r/	95.1	(0.6)	8.6
Total motor gasoline**	228.8	224.9r/	233.9	1.7	(2.2)
Finished leaded motor gasoline*	54.7	53.4r/	69.9	2.4	(21.7)
Finished unleaded motor gasoline*	134.8	133.3r/	126.1	1.1	6.9
Naphtha-jet	6.5	6.8	6.7	(4.4)	(3.0)
Kerosine-jet	43.2	40.9	42.2	5.6	2.4
Distillate fuel oil	128.6	123.3r/	152.4	4.3	(15.6)
Residual fuel oil	45.1	42.8	44.0	5.4	2.5
All other oils	178.7	177.7r/	199.5	0.6	(10.4)
Total all oils	1,068.5	1,053.5r/	1,111.6	1.4	(3.9)

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-July, U.S. Department of Energy, August-September, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	3rd QUARTER		
	1987[1]	1986[2]	% Change
Products Supplied:			
Total motor gasoline	7,418	7,249	2.3
Finished leaded motor gasoline*	1,721	2,202	(21.8)
Finished unleaded motor gasoline*	5,697	5,047	12.9
Naphtha-jet	229	208	10.1
Kerosine-jet	1,160	1,125	3.1
Distillate fuel oil	2,725	2,585	5.4
Residual fuel oil	1,244	1,431	(13.1)
All other oils[3]	4,154	4,027	3.2
Reclassified[4]	- 222	- 343	(35.3)
Total domestic products supplied	16,708	16,282	2.6
Exports	669	756	(11.5)
Total products supplied	17,377	17,038	2.0
Supply:			
Domestic production:			
Crude oil[5]	8,154	8,455	(3.6)
Natural gas liquids	1,591	1,474	7.9
Other supply[6]	881	860	2.4
Total domestic supply	10,626	10,789	(1.5)
Imports:			
Crude oil, total	5,172 9/	4,820 9/	7.3
Canadian	678	568	19.4
Other	4,494	4,252	5.7
Products, total	2,065	2,196	(6.0)
Residual fuel oil	565	703	(19.6)
Other	1,500	1,493	0.5
Total imports	7,237	7,016	3.1
Total supply	17,863	17,805	0.3
Stock change, all oils	+ 486	+ 767	XXXX
Refinery Operations			
Input to crude oil distillation units	13,471	13,197	2.1
Operable capacity	15,696	15,447	1.6
Refinery utilization (%)[7]	85.8%	85.4%	0.5
Crude oil runs	13,346	13,100	1.9

Stocks (millions bbls.)	3rd QUARTER		
	1987[8]	1986[2]	% Change
Crude oil	334.3 9/	337.8 9/	(1.0)
Unfinished oils	103.3	95.1	8.6
Total motor gasoline**	228.8	233.9	(2.2)
Finished leaded motor gasoline*	54.7	69.9	(21.7)
Finished unleaded motor gasoline*	134.8	126.1	6.9
Naphtha-jet	6.5	6.7	(3.0)
Kerosine-jet	43.2	42.2	2.4
Distillate fuel oil	128.6	152.4	(15.6)
Residual fuel oil	45.1	44.0	2.5
All other oils	178.7	199.5	(10.4)
Total all oils	1,068.5	1,111.6	(3.9)

1/ Source: U.S. Department of Energy, July; August-September, API.
2/ Source: U.S. Department of Energy.
3/ Includes crude losses.
4/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
5/ Includes lease condensate.
6/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
7/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
8/ Derived by interpolating API weekly stocks data.
9/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.